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JULY 11TH, 1882.

[*A Special Meeting held at No. 4, Grosvenor Gardens, S.W., by invitation of the President and Mrs. Pitt Rivers.*]

Lieut.-General PITT RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following Paper was read by the author:—

On the LONGEVITY *of the* ROMANS *in* NORTH AFRICA. By the Right Hon. LORD TALBOT DE MALAHIDE, F.R.S., F.S.A.

THE subject of longevity has long engaged the attention of curious and learned men.

My friend Mr. Thoms has written an exhaustive work on the subject, which is doubtless familiar to most of you. I think he has proved that in many instances the ages of men have been exaggerated, and that there is not much trustworthy evidence on the subject. I fear that there has been some mistake as to the age of my countrywoman, the celebrated Countess of Desmond. I am, however, inclined to believe the story which Henry Jenkins told of his having been present at the battle of Flodden Field. This would make his age above 157.

The imperfection, and in most cases total absence, of registries renders this case incapable of proof. The same objection applies

to the Russian cases, which are quite as wonderful as anything on record.

I am, however, disposed to attach more faith to the Roman cases, and I will give you my reasons at length at the end of this paper.

North Africa was covered with Roman colonies and municipia, and, fortunately, numerous inscriptions have been discovered which throw much light on the economic and administrative state of the Roman Empire.

Mr. Renier has published a collection of these, and a still more complete series is published by Mr. Willman under the auspices of the Royal Academy of Berlin. Upwards of 10,000 inscriptions are thus calendared, all found in Algeria or Tunisia, and every day fresh ones come to light.

One of the most remarkable monuments of this kind is the Tomb of Prœcilius, the goldsmith at Constantine, which, when first found, was decorated with numerous statues and curious mosaics, but has been allowed by the French authorities to be utterly gutted and destroyed. It contained a metrical inscription which, though not written in classical Latin, is interesting, and presents a graphic account of Roman domestic life. It is as follows:—

Hic ego qui taceo versibus meam vitam demonstro.
Lucem claram fruitus et tempora summa
Prœcilius, Cirtensi Lare, argentariam exibui artem,
Fydes in me mira fuit semper et veritas omnis;
Omnibus communis ego. Cui non misertus ubique?
Risus, luxuriam semper fruitus cum caris amicis;
Talem post obitum dominæ Valeriæ non inveni pudicæ
Vitam; cum potui gratam, habui cum conjuge sanctam.
Natales honeste meos centum celebravi felices;
At venit postrema dies, ut spiritus inania membra reliquat
Titulos quos legis vivus me morte paravi
Ut voluit fortuna; nunquam me deseruit ipsa.
Sequimini tales: hic vos experto, venite.

EPITAPH OF PRŒCILIUS.

Here I am silent, describing my life in verse.
I enjoyed a bright reputation, and the height of prosperity.
Prœcilius by name, a native of Cirta,
I exercised the art of a goldsmith.
My honesty was wonderful, and I always adhered to truth;
I was courteous to all men, and whose distress did I not succour?
I was always gay, and hospitable to my dear friends;
A great change came over my life after the death of the virtuous Lady Valeria;
As long as I could, I enjoyed the sweets of holy matrimony;
I celebrated a hundred happy birthdays in virtue and happiness;
But the last day has arrived, as the spirit leaves my exhausted limbs.
Alive I earned the titles which you read, as Fortune willed it. She never deserted me.
Follow me in like manner; here I await you! Come.

Dr. Leclerc has made a summary of the ages of persons whose funerary inscriptions are given in Renier's "Recueil d'Inscriptions Africaines." The number of persons who reached the age of from 80 to 90 and upwards is very considerable. He reckons 90 deaths between the age of 90 to 100, and 230 between 80 and 90.

The following is a list from Numidia (Province of Constantine):—

100 years	.. .. ..	14	
101 „	.. .. ..	10	
102 „	.. .. ..	2	
103 „	.. .. ..	1	
105 „	.. .. ..	7	
106 „	.. .. ..	1	
107 „	.. .. ..	1	
108 „	.. .. ..	1	
110 years	.. .. ..	5	
115 „	.. .. ..	4	
120 „	.. .. ..	3	
125 „	.. .. ..	2	
126 „	.. .. ..	1	
127 „	.. .. ..	1	
131 „	.. .. ..	1	
132 „	.. .. ..	1	

Since his paper was written many more have come to light.

To take a single locality, Mastar, which appears to have been a small town, its cemetery has yielded the following names:—

Annia R.	.. .. ..	101	
Cœcilius	.. .. ..	100	
Gargilius	.. .. ..	103	
Granius	.. .. ..	110	
Ninava	.. .. ..	115	
Petreia	.. .. ..	115	
Marcela	.. .. ..	120	
Januarius	.. .. ..	101	
Martialis	.. .. ..	105	
Another	.. .. ..	115	
Jussata	.. .. ..	105	

I will give a few specimens of the style of the inscriptions, which show the methodical manner in which the ages are recorded:—

INSCRIPTIONS AT CARTHAGE.

Christian.

D. M. S.

FELIX CÆSARIS
SER DONATA FIL
TABELLARIVS PIVS
VIXIT ANNIS PLVS
MINVS XXXX VICTO
RIA CONSERVA FECIT.

D. M. S.

JVLIA RV
FINA PIA VI
XIT ANNIS
XXXV PLVS
MINVS.

Now in the Bibliothèque Nationale at Paris.

PROVINCE OF CONSTANTINE.

L. LVCI FIL
IA. MARC
ELA V.A CXX
DXII. H.S.E.

(Annuaire de Constantine, 1862.)

D. M. S.
VET.
HISTRVIA
V ANNIS
CXXV

GEMINIA A.F.
MATRONA V.A
XXCL H.S.E (130 years).

(Annuaire, 1866, p. 43.)

NAVA
CXI

(Annuaire, 1866, p. 52.)

T. FLAVI
VS CAS
TVS VA
OXY H. S.E (113 years).

(Annuaire, 1866, p. 73.)

D. M.
L CORGIV
. . . VS INFI
YCIANVS
V.A CXX

(Annuaire, 1866, p. 157.)

M.A.M.S.F
P. VIX. AN
CXI
D. M. S.

(Annuaire, 1866, p. 224.)

MAVIB
Æ MIVIR
CA. VIXIT
ANNI. CX
FIL.

In considering what machinery the Romans employed for determining the ages of citizens, we must first advert to the duties of the censors.

The censors, the most important officers, if not the most ancient, in the Roman Commonwealth, are said to have been first appointed by King Servius Tullius, and they retained their functions during the whole of the Republic, and the beginning of the Empire, when they merged in the crown.

Their duties were manifold. They exercised what our neighbours would call a *police de mœurs*, and fixed the position of citizens, particularly senators and knights.

They also managed, in conjunction with the quæstors, the finances of the State. These are matters with which we have nothing to do. We shall therefore consider their duties as managers of the *census*, or enumeration of the people. According to the quaint language of the twelve tables, "Censores populi ævitates, soboles, familias pecuniasque censento." "The censores are to inquire into the ages of the people, their families and servants, and also their incomes."

Each citizen had to give an account of himself, of his family, and of his property on oath. First, he had to give his full name (prenomen, nomen, and cognomen), and that of his father, or if he were a freedman that of his patron, and he was likewise obliged to state his age.

He was then asked, "Tu, ex animi tui sententia uxorem habes?" and, if he was married, the name of his wife, and likewise the number, names, and ages of his children, if any.

Whoever voluntarily absented himself from the census was subject to the severest punishment. Servius Tullius is said to have threatened the *excensus* with imprisonment and death, and in the Republican period he might be sold by the State as a slave. It is supposed, from a passage in Livy, that in later times the censors sent commissioners into the provinces, with full power to take the census of the Roman soldiers there.

The regular depository for all the archives of the censors was in the earlier times the *Atrium libertatis*, near the *Villa publica*, and in later times the Temple of the Nymphs. The term *vasaria* was applied to them, probably because they were preserved in vases.

There does not appear to have been a general census taken in the provinces till the time of Augustus. This Emperor caused an accurate account to be taken of all persons in the Roman dominion, together with the amount of their property; and a similar census was taken from time to time by succeeding Emperors, at first every ten and subsequently every fifteen years. The Emperor sent into the provinces especial officers to take

the census who were called *censitores*, but the duty was sometimes discharged by the imperial legate. The censitores were assisted by subordinate officers, who were called *censuales*, who made the lists, &c.

By an ancient regulation, ascribed also to Servius Tullius, all births were registered in the Temple of Venus, and all deaths in that of Libitina; and this practice was continued under the Empire, only that at a later period the Temple of Saturn was substituted for that of Venus for the registration of births.

The *censor*, *curator*, or *quinquennalis*, was a municipal magistrate, and corresponded to the censor at Rome, and in some instances to the quæstor also.

In stating the duties of censor, I am much indebted to Dr. Smith's Dictionary of Roman Antiquities.

I think I have shown that the Romans did not neglect the duty of enumerating and registering their citizens. I shall conclude by quoting some curious passages in Pliny's Natural History which bear on longevity.

In the forty-ninth and fiftieth chapters of his seventh book, he discusses the subject at length. He does not here betray the credulity of which he has been justly accused, but displays a considerable amount of logical acumen.

He mentions, only to discredit them, the legends which ascribed to Arganthonius, King of Cadiz, the age of 150; Cynyras, King of Cyprus, 160; Egimius, 200; and, in spite of the high authorities of Theopompus, Hellanicus, and Xenophon, does not believe that Epimenides lived to 153, certain Ætolians 200, a King of Illyricum 500, and a King of Tyre 600.

He, however, mentions, as undoubted instances of longevity, a Sicilian of the name of Gorgias, who lived to 108; M. Valerius Corvinus and Metallus Pontifex M., who lived to 100; Terentia, Cicero's wife, 103; Clodia, wife of Ofilius, 115. An actress named Sammula is said to have lived to 110; and a certain T. Fullonius, of Bononia, is said to have lived to 150.

With respect to Fullonius, it appears that the Emperor Claudius took great pains to verify this fact. "Idque collatis censibus, quos ante detulerat, vitæque argumentis (etenim id curæ principi erat) verum apparuit."

Pliny also gives a particular account of a recent census during the censorship of the Emperors Vespasian and Titus. He says, *nec sunt omnia vasaria excutienda.* He does not go through all the archives, but confines himself to the district between the Apennines and the river Po.

His summary is as follows:—

In this district there were found—

54	men of	100 years.
14	„	110 „
2	„	125 „
4	„	130 „
4	„	135 or 137 years.
3	„	140 years.

The Romans seem to have taken much pains to ascertain the veracity of their statements as to age. But of course they sometimes made mistakes, and although the age of the deceased is almost universally given on tombstones, on several you see added PLVS MINVS when they were not quite certain.

I have not attempted to continue this inquiry to more recent times. I have no doubt that among the native tribes, the Kabyles and Berbors, many cases of longevity may be found, but the absence of registries and other reliable evidence would prevent a successful result.

Discussion.

Mr. Villiers Stuart called attention to the remarkable case of the Countess of Desmond as an instance of longevity. The Duke of Devonshire's agent, in searching for fishery documents at Lismore Castle, discovered a list of farms purchased by the Duke's ancestor from Sir Walter Raleigh. Attached to them was a statement that they were subject to the payment of the jointure of the old Countess of Desmond, "now aged seven score years." As this was a legal contemporary document it is almost conclusive as to her age. Her distinguished social position, and the interest which the representatives of the estate had in watching that there should be no imposition, was, the speaker believed, the strongest evidence we could have of the genuineness of her case.

Mr. Moncure D. Conway stated that he had heard Thomas Carlyle relate that he once visited a man who was certainly over a hundred years of age. His eyes were like horn, and his skin like leather.

Dr. John Evans thought that possibly in ancient as well as in modern times epitaphs were not distinguished for their strict veracity. It was, moreover, well known that there was a tendency among persons of advanced years somewhat to exaggerate their age. There might possibly have existed in the North of Africa some custom of reckoning by years of twelve lunar months instead of by the solar year, but he had no special grounds for believing this to have been the case.

Mr. F. Galton alluded to a current opinion that old couples were more often to be met with than the mere chance of the double event would render probable. He had himself noticed several cases, and was inclined to believe in the truth of the opinion, though he had not sufficient evidence to speak positively. If it were true, we

might reasonably conclude that longevity was a good deal dependent on the state of the domestic *ménage*.

Sir JOSEPH FAYRER adduced two instances of great age, probably exceeding 100 years. When at Lucknow, in 1854, among other institutions under his supervision was one known as the Khairāt-Khāna, founded by King Nusseet-oodeen Hydet. It was a charitable institution, and one of the outdoor pensioners—a hale, vigorous old man, a Mohammedan, who used to walk some miles to receive a monthly pension—had been a Soubhadar at the battle of Buxar. It was hardly probable that his age, holding that rank (equivalent to "captain") could be less than 20,—probably it was more,—so that as the battle of Buxar was fought in October, 1764, supposing his age to have been 21, at the time the speaker knew him he must have been, in 1855, 110 years of age; and then, though he looked very old, he seemed by no means likely to die of old age and debility for some time. Sir Joseph lost sight of him before the Mutiny broke out. The second case was that of an Armenian in Calcutta, who was admitted into the hospital with a fracture of the neck of the thigh-bone. He was very old, feeble, and irritable, would not talk freely, but told the speaker that his age was very great, and that he remembered seeing Nuncomar's execution, and that he was a grown lad at the time, say 14 to 16. This statement was made in about 1866. Nuncomar was hanged on August 5th, 1775. Supposing him to have been 16 at the time, his age in 1866 was 107. He died, as far as Sir Joseph could remember, of exhaustion and debility after the accident.

Dr. ALLEN THOMSON mentioned his having visited, many years ago, in Edinburgh, a lady whose well-authenticated age was then 107 years. With some degree of torpidity of her muscular powers she was in possession of the senses of sight and hearing, and a considerable amount of her mental faculties. She belonged to a family many of the members of which attained to an unusually old age.

Mr. CARMICHAEL thought it not unimportant to inquire how far Lord Talbot de Malahide had distinguished between the classes of society to which the persons commemorated in the inscriptions brought forward by him belonged. For in the case of slaves or freedmen, Mr. Carmichael saw no reason to suppose that there was any greater probability of accurate knowledge of age being possessed by a Roman slave than was formerly found among American and West Indian slaves. In the case of the "*Verna*," or slave born on his estate, or in his house, alone could the Roman master have a possibility of personal knowledge of the facts. In all other cases the computation must have been vague, and based on no certain data. In reply to the suggestion by the noble lord that the Roman slave was a member of the family, Mr. Carmichael said he was of course aware of that, but it was true only in the technical sense of the term "*Familia*," in Roman law.

The PRESIDENT also took part in the discussion, and the author briefly replied.

The following paper was read by Captain Burton :—

On STONE IMPLEMENTS *from the* GOLD COAST, WEST AFRICA.

By Captain R. F. BURTON, F.R.G.S., and Commander V. L. CAMERON, C.B.

[WITH PLATE XIII.]

THE discovery of a stone age in these barbarous regions is thus reported by my late friend[1] :—"One morning, in 1870, Mr. Zimmermann, of the Basle Mission at Odumassi, near the Volta, brought me a stone which had evidently been shaped by human hands into the image of an axe. It was so small as rather to resemble a toy or model than a real implement of work; yet such in past ages it had been. With these miserable tools the ancestors of the white men, the red men, and the black men, had hewed down the oaks of Europe, the cedars of Asia, the pines of America, and the huge silk-cotton trees of Negroland. Not only are these stone implements dug up all over the world, but all over the world they are supposed by the common people to be thunderbolts. As regards Western Africa this belief is easily explained. The stone age is there comparatively recent, and many axes are merely covered by the upper soil (?). After heavy storms of rain, which are usually accompanied by thunder and lightning, this upper soil being washed away, the stone implements are found lying on the ground, and so seem to have fallen from the sky. However, the stone which Mr. Zimmermann showed me had been dug in his yard at some little depth below the surface. He informed me that he had sent specimens to the Missionary Museum at Basle, and I afterwards discovered that the specimens from Christiansborg (while that fort was under the Danes) had been sent to the Copenhagen collection, which is unrivalled in the world for its relics of the age of stone. But I was the first to bring stone implements from Western Africa to England, and being thus put upon the scent, obtained large numbers at two other missionary stations —Akropong and Aburi."

And here I must note that Mr. Crocker, of Crockerville, on the Gold Coast, told me that Winwood Reade had found, at Aquapim, fine specimens of hatchets, with holes pierced for hafts. Of these Captain Cameron and I found none on the Gulf of Guinea.

Windwood Reade resumes: "The next time I saw a stone implement was in the tent of Mr. Kühne, at Prahsu. He had

[1] Winwood Reade, "The Story of the Ashantee Campaign," pp. 2–4. London: Smith, Elder, and Co., 1874.

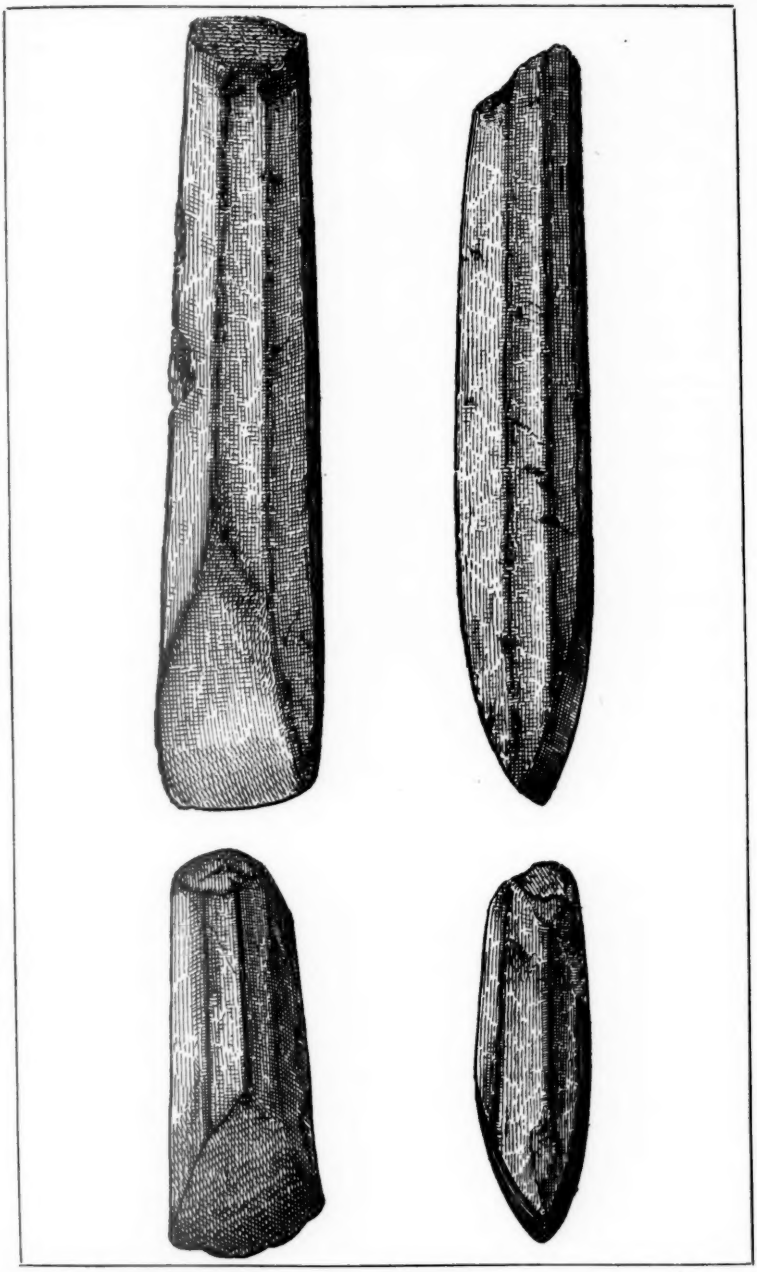
found it on an Ashantee altar, or shrine, as he was on his way from Coomassie to the camp. I asked my interpreter if he had ever seen one before; he replied that they were 'found everywhere,' and I made a small collection during the march through Ashantee. When the troops took a village I always hunted for this kind of plunder. Sometimes I found the stone hanging before doorways at the end of a string, like a plummet, and often it would be daubed over with chalk. The natives regard these stones with superstitious reverence, and call them *god-axes;* and, believing that all things sacred are medicinal, grind from them a powder which they use for rheumatism and other complaints."

Lastly, we are told (p. 314) that Reade's companion, Lake, found at Amoaful some stone implements, which are now in Sir John Lubbock's collection. Dr. John Evans owns, I believe, one of the Aquapim finds.

Arrived at Axim, I nailed to the wall of our sitting-room a rough print, showing the faces and profiles of stone implements, and drew to it the attention of all native visitors. The result was that the people began bringing specimens at once. The supply continued to come in, both up and down the coast, until I had secured thirteen fragments and entire specimens. When, however, the vendors found that value was attached to their wares, the price rose from a shilling to a dollar, and at last £100 was freely talked of. All were of the neolithic or ground type; none was of the palæolithic or chipped; and arrow-heads and spear-heads were apparently unknown.

Mr. Carr, native factotum at Axim for Messrs. Swanzy, an able and intelligent man, brought in sundry pieces, and furnished me with the following notes. The stones are picked up at the mouths of streams that have washed them down after heavy rains. But the people here, as elsewhere, call them "thunder-stones" (*Srâman-bo*). These Keraunia are supposed to fall with the "bolt," to sink deep in the earth, and to rise to the surface in the process of years. Hence the people search for them where the "thunder has fallen."

The stones are used in medicine, and those of black colour have generally been boiled in oil to preserve their qualities. After this process they resemble the Básanos (*βάσανος*) of Lydian Tmolus: on the Gold Coast, however, the touchstone is mostly a dark jasper imported from Europe. The thunder-stone is supposed to "cool the heart"; and the infusion, regularly drunk, prevents infantine diseases becoming too severe. They are mostly of fine close felsite, or the greenstone-trap (diorite), found everywhere along the coast. I heard, however, that at Abusi, beyond Anamabo, and other places further



STONE IMPLEMENTS FROM THE GOLD COAST, WEST AFRICA.

east, specimens of a lightish slaty hue are common. Captain Cameron, whose fine collection is described elsewhere, brought home one that felt and looked like soapstone coloured *café-au-lait.*

Axim seems to have been a great centre of stone manufacture. Mr. Carr showed us some curious remains in Messrs. Swanzy's compound. The slopes of the wart upon which their powder-magazine is built, especially the southern, are garnished with huge untrimmed boulders of this greenstone, whinstone, ironstone, or diorite. The upper surfaces are scored and striped with leaf-shaped grooves, some of them three feet long by three inches wide and two deep. Probably chippings of the same rock were here ground to the required size and shape. I counted twelve large blocks, chiefly at the south-eastern angle of the monticle, and Cameron photographed the most remarkable. The late Mr. Robertson, of the Izrah Mine, compared the boulders with the Bell Rock on the Winterhoech farm, 150 miles from the Natal coast, and six miles from Graytown. It takes its name from the ringing sound when struck by stone or bullet. No one has accounted for the stripes down the sides which may result from grinding stone implements. Captain Cameron, in returning from Tákwá, put in a few gads, and with Mr. Carr's leave broke off a fragment weighing some 600 lbs. It is now in the British Museum.

We afterwards found a number of these grooved boulders by walking round the seaward face of the Fort Saint Anthony: some were in the water and others stood high and dry. In the settlement north of the Fort there is one at the corner of a native house; and there is a fine specimen in the bed of the Anjueri rivulet, one of the many which pass through the red clay ground to the north of Axim before the traveller debouches upon the sands leading to the Ancobra river.

Explanation of Plate XIII.

Front and side views of two stone axes brought by the authors from the Gold Coast, and represented of natural size.

Discussion.

Dr. John Evans observed that there was a strong general resemblance between the West African stone implements and those found in Greece and Asia Minor. He did not recognise any well-marked distinction between the one which was reported to have been used for gold-mining and the other specimens. The reverence shown to those hatchets might be paralleled by that exhibited towards them in India, where it is the custom to daub the ancient stone

hatchets with red paint as *mahadéo*. Curiously enough, the Egyptian hieroglyph for *Nouter*, God, is the figure of an axe. The popular belief of such hatchets being thunderbolts, he observed, was of very wide range. Though polished stone hatchets had already been brought from the West Coast by Mr. Winwood Reade and Mr. Bowen, he believed that they had not as yet been found in Southern Africa.

Professor BOYD DAWKINS, Lord TALBOT DE MALAHIDE, Dr. Ross, and the PRESIDENT took part in the discussion.

Commander CAMERON described a number of objects of ethnological interest from the West Coast of Africa, which had been brought for exhibition by himself, Captain Burton, and Dr. Ross.

The PRESIDENT exhibited an ancient Egyptian Boomerang, from Thebes, which had been lately added to his collection, and read the following paper:—

On the EGYPTIAN BOOMERANG *and its* AFFINITIES.

By Lieut.-General PITT RIVERS, F.R.S.

[WITH PLATE XIV.]

WHEN at Thebes, in March, 1881, I heard that an ancient Egypian boomerang had been sold to Dr. Pinkerton, who was at that time living on board a Dahbeeah in the river. I made several inquiries about it, but failed to elicit any further particulars, and not having the pleasure of Dr. Pinkerton's acquaintance, I subsequently forgot all about it. About a month ago I received a letter from Mr. Samson Gemmel, of Glasgow, informing me that a friend of his, without mentioning his name, had lately died, and had left me a boomerang. Thinking it was probably an Australian boomerang, of which I had already a sufficient number in my collection, I wrote thanking him for the present, and again the matter escaped my memory until within the last few days, when a parcel arrived which I opened, and to my surprise and satisfaction I found that it contained the rare and valuable specimen of an ancient Egyptian boomerang, now upon the table, and figured in No. 6, Plate XIV.

I at once recognised it by the wood, its form, and its peculiar ornamentation, which exactly resembled two others which I had seen and drawn, and which had been lately added to the British Museum. I therefore wrote to Mr. Gemmel for further particulars, and he in reply informed me that the friend referred to was Dr. Pinkerton, who, before his death, had

included amongst his last requests the desire that the weapon in question, which he had obtained at Thebes about the time I have mentioned, should be added to my collection.

At the same time that this weapon was procured at Thebes, the two others mentioned above were obtained, probably from the same tomb, and they have found their way, through Mr. Greville Chester, into the British Museum. One, represented in fig. 7, Plate XIV, is hooked at the end and slightly twisted; the other, fig. 8, Plate XIV, exactly resembles mine, but is less neatly finished. Both are ornamented exactly in the same manner as mine, by means of four parallel grooves which run down the centre of the blade on each side, and they are of the same size and depth in all three specimens. The one with the hooked blade is further marked with an inscription represented in the annexed woodcut, marked A, which has been identified

A.

CARTOUCHE OF RAMESES THE GREAT.

as part of the cartouche of Rameses the Great, 1355 B.C.; and there can be little doubt, I think, that all three must have come from the great find of antiquities recently discovered at Thebes, and which contained, amongst others, the mummy of that monarch.[1] Another flat-curved stick in the Boulak Museum, about 3 feet 6 inches in length, and probably a stick for throwing, but of a later period, is inscribed with the cartouche represented in the woodcut B, which Dr. Birch has interpreted for me as

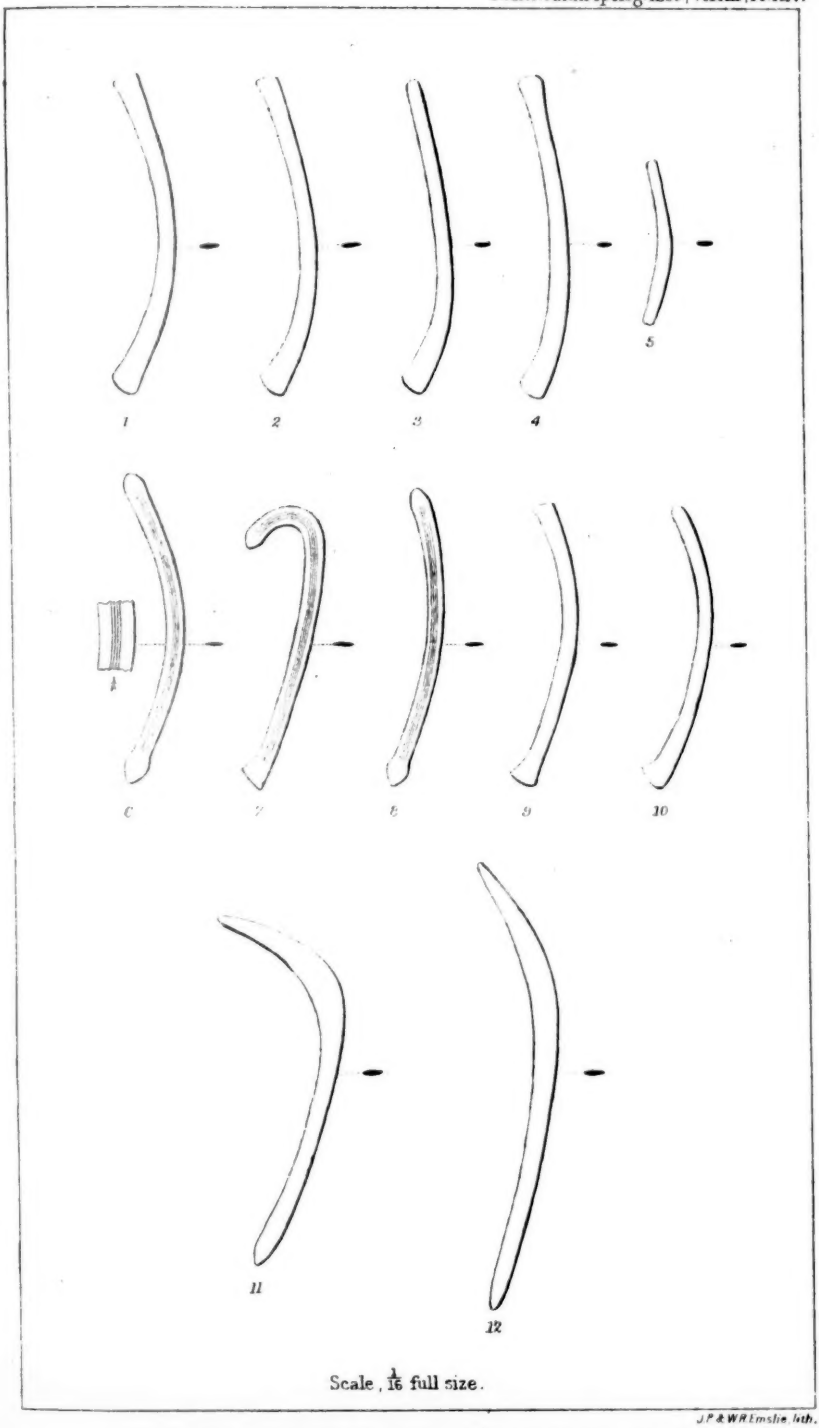
B.

TA-A-Ā, SON OF THE SUN EVER-LIVING.

[1] This great find had been discovered when I was at Luxor; I had heard of it, although its whereabouts had not been disclosed to me, but it had in fact been offered to me for a large sum, which I declined, thinking it ought to remain in Egypt.

"Son of the Sun (TA-A-A) Ever-living," and of the period of the 17th dynasty.

I have drawn on the accompanying plate other ancient Egyptian boomerangs that are to be seen in different museums. Fig. 9, Plate XIV, has been in the British Museum for some time. I conclude it is the one mentioned by Sir Gardner Wilkinson as having been found by Mr. Burton at Thebes. I had a fac-simile made of it for experiment some years ago, and found that by throwing it against the wind I could make it return to my feet several times running: it has a flat enlargement at one end, and a similar but smaller enlargement at the other. Two others, figs. 3 and 10, Plate XIV, are nearly like it, but have no enlargement at one end. No. 3 is in the Boulak Museum at Cairo, where I took a drawing of it and of the others in the same museum, by permission of M. Maspero, who informs me that both this and figs. 1, 2, and 4, were obtained from Drah-abool-Neggah, at Thebes, and are of the period of the 11th and 12th dynasties—say 3064 B.C. Fig. 10 is in the Louvre at Paris; figs. 1, 2, and 4 resemble this, except that they have enlargements of equal size at both ends. Fig. 5 is a small one of bone, in the Boulak Museum. Fig. 7 is the one to which I have referred as being marked with the name of Rameses the Great, 1355 B.C. It has a flat enlargement at one end, and the opposite end is hooked and slightly twisted. I had a fac-simile made of it for experiment, and a similar twist given to the curved end; but it was found that it had no effect in screwing it up in the air, as indeed might be anticipated from its weight and thickness, and the shortness of the curved arm. I have not been able to detect any intentional twist in the others, and it seems probable that the twist in this one may have resulted from warping during the time that it was embedded in the tomb. Figs. 6 and 8 have an oval enlargement at the handle end, intended no doubt to compensate in weight for the greater width of the boomerang at the opposite end. The first is in my possession, and is the one given me by Dr. Pinkerton, and the other is in the British Museum. All these boomerangs have more or less flat sections, as shown in the plate, and the section is symmetrical on both sides—not flat on one side and convex on the other, as is the case with some of the Australian weapons. They differ in appearance from the boomerangs of the Egyptian sculptures figured by Sir Gardner Wilkinson in having a single curve, whereas those represented in the hands of fowlers in the sculptures have generally a double curve somewhat in the form of a drawn-out S, very much elongated and straightened. This must represent a different variety of the weapon. Some of the Australian boomerangs are S-shaped. All the Egyptian



J.P. & W.R. Emslie, lith.

ANCIENT EGYPTIAN & AFRICAN BOOMERANGS.

boomerangs represented in the plate, it will be seen, except figs. 6 and 8, which have the oval handle, are more curved at one end than the other.

Having now described all the ancient Egyptian boomerangs that I have been able to take drawings of in different museums, and having shown clearly by the sections attached to each that they are true flat boomerangs, and not merely round curved sticks, as has been erroneously assumed by some writers who have been guided only by the representation of them in the sculptures, I have only further to say a few words as to the significance of this form in its bearing on the possibility of connection with other countries in which the boomerang is used.

I find that my views on this subject have been misrepresented, owing mainly, I presume, to the fact that some more or less casual remarks of mine in my address to the Anthropological Department of the British Association in 1872 have been widely circulated, whilst two previous papers in which I discussed the subject in detail, in the years 1867 and 1868, having been published by the Royal United Service Institution, the Journal of which Society[1] is not so generally accessible to anthropologists, have received no attention. It has been assumed that I supposed the Egyptian and Dravidian boomerangs to be identical with that particular variety of the weapon which in Australia is made to return to the thrower after being hurled at the object it is intended to strike, whereas the very reverse is what I stated in the papers to which I refer. I have there shown, by giving a description of all the different varieties of the boomerang used by the natives of Australia, that the Egyptian boomerang, the trombush of the blacks of Abyssinia, and that of the blacks of Hindustan, correspond only to one class of the Australian boomerang, viz., that used by them for war, and considered the most useful weapon they employ, and that this form differs from the returning boomerang, which I describe as "having a slight lateral twist by means of which it is caused to rise in the air, screwing itself up precisely in the same manner as a boy's flying top, which rises and spins upon the ceiling."[2] This last kind of boomerang, I have contended, is merely a variety of the war boomerang, and is peculiar to the continent of Australia, and not found elsewhere, and that

[1] "Journal of the Royal United Service Institution," vols. xi–xiii, 1877–9.

[2] The form of the returning boomerang, its curve, its twist, and its peculiar section, flat on one side and convex on the other, has long been known in this country, and *fac-similes* of it have been used as toys for many years. More than forty years ago, when a boy, I practised with one of them copied from an Australian specimen, and acquired some skill in throwing it so as to return to me repeatedly, and also to pass behind me in its return flight.

it is a development of the plain war boomerang, which latter is used by several of the black races bordering on the Indian Ocean as well as by the Australians. Whether the returning boomerang of Australia is a weapon of precision or not is immaterial, and not worth discussing in reference to this question of distribution, because it is not this, but the plain non-returning war boomerang, which is found on the three continents of Africa, India, and Australia.

It is not doubted that the black races of the world are more closely allied to each other than to the rest of mankind. Their geographical distribution, no less than their physical peculiarities, favours the opinion that, notwithstanding the wide seas which now separate them, and notwithstanding minor differences of hair and form, they must originally have spread from a common centre, and if so must have carried with them the most primitive kinds of weapons of wood and stone that are to be found amongst savages in a low condition of culture. Of this class of weapons the boomerang is one, but it is reasonable to suppose that they must have taken it with them in its more simple and early form, and not in the more complex form into which it developed on the continent of Australia after the separation had taken place.

If it is said that the plain, non-returning boomerang, being a comparatively simple contrivance, and one derived from the use of natural forms of sticks, might have been independently invented in different places, the reply is, why, if such is the case, was it not invented on the continent of America, where nothing of the kind is found all the way from Baffin's Bay to Tierra del Fuego?[1] Why is it not found in Greenland, or Northern or Eastern Asia, or the Pacific Islands, in Europe or South Africa, or any part of the world which is not contiguous to the Indian Ocean? In India it is used only by the black aborigines of the country; in Africa it is used by the blacks in Abyssinia and the Upper Nile. I have here given illustrations of two of these wooden boomerangs, called trombush on the Upper Nile, which I copied from specimens in the Ethnographical Museum at Copenhagen (figs. 11 and 12, Plate XIV). It will be seen that they resemble some of the Australian boomerangs in form and section. These or cognate weapons are described by Sir Samuel Baker and others.

From this region, allied weapons in iron, called Hunga Munga, and various other names, all derived from the wooden trombush, spread over Central Africa continuously to the west coast; but I

[1] Care must be taken to avoid confusion of terms, by mistaking the throwing-stick of the Eskimo, Mexicans, and South American Indians, for the boomerang; this is a totally different principle of weapon, although both are sometimes called throwing-sticks.

believe I am right in saying that the wooden weapon is only found in the Eastern division of the continent, showing that its origin was from that source.

At the time when my two papers already referred to were written, Professor Huxley was of opinion that the ancient Egyptians were racially connected with the Australians, and if such is the case, it would of course strengthen my argument for a common origin for the boomerang, assuming it to have been originally an Egyptian weapon; but it is not material to my hypothesis, because there is great probability that the Egyptian boomerang may have been derived in Egypt from the blacks with whom the Egyptians were always in such close connection; and in confirmation of this it will be noticed that all the specimens figured in the plate were obtained from Thebes, that part of the Egyptian dominion which was contiguous to the country of the blacks.

In my former papers I have referred to Mr. Fergusson's learned treatise on the Cateia. I hardly think, however, that the evidence adduced by him is sufficient to establish the use of the boomerang in Europe. If it were so, it was probably derived from Africa, and developed from the African form; but the tradition of a returning weapon in Europe is mythical, and certainly referred to numerous objects besides weapons which could by no means have been derived from boomerangs; the speculation on this subject is more interesting than instructive.

The argument that the plain boomerang is too simple a contrivance to warrant its being supposed to have been carried from a common centre during the migrations of the black races of mankind into distant continents, must be met, firstly, by the fact of its geographical distribution, to which I have already referred, and secondly, by the consideration that a weapon which appears simple to us was not necessarily simple to people in the most primitive condition of society.

There is not the same necessity now that there was when my two papers on primitive warfare were written, to contend for the gradual development of ideas. Evolution has since then found acceptance in the world in relation to arts and culture no less than the physical development of race. The plain boomerang, such as it is, is found amongst the Dravidians of India, the Egyptians, and the blacks of Africa. Simple as it appears to be as a mechanical contrivance, it was not thought out in a day, and it is easy to trace the process by which it was arrived at.

The Australians, whether they are a pure or a mixed race, are without doubt the most primitive people in existence in regard to their arts. All their various weapons are obtained by

a selection of natural forms, and they possess none of those complex forms which imply descent from a higher civilisation. Amongst the existing weapons of the Australians, viewed as survivals, the whole history of the boomerang may be traced. Its development may be divided into four stages.

Firstly, the origin of the weapon may be ascribed to the tendency of all savages to throw their weapons at their enemies. The North American Indian throws his tomahawk, the Indians of the Gran Chaco their "Macana," the Kaffir his knobkerry, the Fiji Islander his club, the Australian his "dowak," as well as his waddy. Such weapons when thrown necessarily rotate in their flight, but not being specially adapted for rotation the movement is constantly impeded by the resistance of the air, and both the range and accuracy of the missile are necessarily impaired through this cause. I include, therefore, in the first stage of the history of the boomerang all weapons which are thrown by the hand, and which are not specially adapted for rotation.

In the second stage it would be discovered that a round curved stick would rotate more freely than a straight one. The impetus following the direction of the rotation would overcome the resistance afforded by the air to the movement of rotation. The weapon in its forward movement would be rapidly presented to the opposing air on its different sides, and the result would be an increase both of range and accuracy.

The third stage would be reached when it was found that by splitting the weapon in half throughout its length, and thereby opposing to the atmosphere a thinner edge, both the rotation and the range would be still further increased. The weapon now sails through the air like the fore and aft sail of a vessel hauled up to the wind, whilst the axis of rotation continuing parallel to itself, upon the well-known principle of rotating projectiles, would act as a rudder, tending to preserve the course of the weapon constantly in the direction originally given to it. This I consider to be the most important stage in the development of the boomerang. In this stage it is still used by the Australians for purposes of war, after they have further acquired a knowledge of the returning or screw boomerang. It was in this stage that I suppose it was carried by the black races into those distant regions in which it is now used. I have ascertained, by experimenting with fac-similes of the Egyptian boomerang, that the first idea of a return flight may have occurred to the people who used the boomerang in this stage. For, if the movement of transition, or forward movement, is brought to a stop by the resistance of the atmosphere whilst the weapon is still rising, the movement of rotation still continuing and causing the axis of rotation to continue parallel to itself, the

weapon in falling will slip back on an inclined plane towards the feet of the thrower, in the same manner that a kite when the string is suddenly broken will fall backwards in the direction of its tail. But it would not be possible to construct all flat boomerangs that are in this stage of perfection upon a truly uniform plane. Bends and twists must naturally occur, from the imperfections of the wood and the rudeness of the implements employed to construct them, and it would soon be found that certain twists had the effect of causing the weapon to screw itself up in the air like a child's flying-top. These accidental twists would be studied and imitated, and thus the weapon would develop into its fourth stage of improvement.

We have now, in the fourth stage, an additional force to consider in the flight of the weapon—1stly, the movement of transition, or forward movement; 2ndly, the movement of rotation; 3rdly, the force of gravity tending downwards; 4thly, the screw movement tending upwards, or at any rate in a direction that is perpendicular to the plane of rotation. When these two last movements operated in the same vertical line they would simply neutralise each other, but when from a slight divergence of the axis of rotation from the perpendicular they began to operate at an angle with each other, the resultant would cause the weapon to fly off in another direction, and this, combined with the sailing properties of the weapon, to which I have already alluded, would produce some of the peculiar movements of which the screw boomerang is capable. Diagrams of the flight of the weapon have been given by Captain Wilks, in his "Narrative of the United States Exploring Expedition." By constant practice and experience, which alone has been the instructor of the savage during all these improvements, rather than by any knowledge of the principles of its flight, he would soon learn to control and utilise these movements so as to make the weapon return towards him after it had done its work in the air.

But this last stage of improvement, so far as we at present know, was effected in Australia only, and not in those countries into which in its simpler form it had been previously distributed by the migration of tribes. Now it has been argued that because the Egyptian, African, and Dravidian boomerangs have not this property of being made to return to the thrower, they were therefore independent inventions. To this argument I cannot assent. If it is admitted as a valid argument in the case of the boomerang, it must be applied also to other missiles under similar conditions of occurrence in other parts of the world. When the English and the Russians first met each other during the Crimean War, the former were armed with the rifle-musket, the latter with a smooth-bore musket which was equivalent to

the English Brown Bess. The result—as I am in a position to know from having been intimately connected with the experiments which led to the introduction of the rifle-musket in this country, and having likewise been a witness to its first application in the field—greatly contributed to the success of the English over the Russians at their first meeting. But applying the argument under consideration to this case, it should be held that because the rifle-musket was not Brown Bess, the one having a rotating projectile and the other not having that property, therefore firearms were independently invented in England and in Russia. But we know better than to make any such statement. We know that firearms in Europe had a common origin, and that the rifle-musket was merely a development upon Brown Bess, which the English happened at that time to have adopted whilst the Russians had not.

These, then, constitute the main points which I have advocated in assuming that the boomerang, being a weapon of very primitive construction, and its present distribution being coincident with the distribution of some of the black races of man,—viewing the conservatism of savage people, and the enormous time requisite for the acceptance of new ideas in a primitive condition of society, it may with great probability be regarded as one of those weapons which primeval men carried with them into distant parts from the home of their ancestors, wherever it was—possibly from some continent in the Indian Ocean now submerged.

It is, of course, a theory which, like most anthropological problems relating to the unknown past, is open to doubt and criticism. But I think I am justified in asking that my critics, whoever they may be, should at least read what I have written on the subject. I allude more particularly to the observations of Mr. Brough Smyth, in his work on the "Aborigines of Victoria." As an Australian colonist he is of course entitled to be looked upon as an authority in speaking of the weapons of the aborigines of that country, but as he has evidently not seen the boomerang of the other countries referred to, he is not equally entitled to pronounce judgment on the general question. Referring to my brief remarks on the boomerang in my address to the Anthropological Department of the British Association, he has put himself to the pains of picking my observations to pieces in detail. But it was not possible to condense into a few short lines, making a brief allusion to previous writings, anything calculated to stand the test of criticism of that kind. To do justice to the subject he should have referred to my previous papers on the subject, some of the arguments in which it is the object of the present communication to reproduce in an abridged form. Had he done so he would have found that I had there

considered most of the points to which allusion is made in his work. He assumes that I had only seen the simpler forms of the Australian boomerang; but in my previous papers I refer, I believe, to all the various kinds of the weapon which he describes, and give illustrations of some of them. He supposes that I had never seen the weapon used by natives, but in the papers in question I make mention of the practice of the Australians who were exhibiting the use of their weapons in England at that time, and whose performances I had studied with attention.[1] Supposing, as so many others have done, that the Egyptian boomerang was a round bent stick, he says that no doubt a slight tendency to return might be obtained from such a weapon;[2] but I doubt extremely whether, with a simple round bent stick, even the first idea of a return flight could have suggested itself, and certainly I have never said so. I think, however, the figures in the plate will suffice to show that the Egyptian boomerang is not merely a bent stick, but a real flat boomerang. It is in what I call the third stage of development, and therefore its affinity to the returning boomerang of the Australians is greater than has been supposed.

Description of Plate XIV.

Figs. 1–4, Egyptian boomerangs of wood in the Boulak Museum at Cairo. Fig. 5, bone ditto in the Boulak Museum. Fig. 6, wooden boomerang from Thebes (Pitt Rivers collection). Fig. 7, wooden boomerang from Thebes in the British Museum, having on it the cartouche of Rameses the Great, represented in the woodcut A of the text. Fig. 8, wooden boomerang, in the British Museum, from Thebes, with ornamentation similar to figs. 6 and 7. Fig. 9, wooden boomerang, in the British Museum, from Thebes. Fig. 10, wooden boomerang, having an enlargement only at one end, in the Louvre at Paris. Figs. 11 and 12, African boomerangs, called trombush, in the Ethnographical Museum at Copenhagen.

[1] It is worthy of observation that although these natives, when exhibiting in this country, produced the most marvellous flights with the boomerang, using it as a toy, they never to my knowledge attempted to employ it as a weapon of precision. I should like to know how many animals a native in his own country will kill in a day with this weapon, by striking them in the return flight, and under what circumstances and for what purposes the return flight is employed. This question of precision, however, is entirely beside the question of origin.

[2] "It is quite possible, as Colonel Lane Fox states, to get some sort of return flight if a *crooked stick* be thrown into the air, but the wonguin of the Australians is something more than a *crooked stick*," "the flat leaf-like weapon of the Australians differs essentially from the Egyptian *crooked stick*."—("The Aborigines of Victoria," vol. i, pp. 322, 323.)

Mr. W. L. DISTANT exhibited, on belief of Mr. Mark Hutchinson, a large collection of copies of Bushman drawings, and communicated the following notes:—

NOTES *on a* COLLECTION *of fac-simile* BUSHMAN DRAWINGS.

By MARK HUTCHINSON, Esq.

THE originals of these drawings were found in a series of caves at a great elevation on the Drakensberg Mountains, Natal, South Africa. The *fac-similes* are the result of three separate visits to the caves, and are copied with the greatest care, so as to represent faithfully the defects, as well as the merits, of the originals. Especial care has been taken by myself and son to avoid giving any feeling of our own, and to reproduce with absolute accuracy the drawing and colouring of the Bushmans.

There is no particular reason to believe that the originals are of any great age. They are painted on the rocks forming the sides of the caves, and it is known that the caves were inhabited by Bushmans within the last twenty years.

The pigments used are apparently earths, stones, and blood, ground up with fat. It is not known what description of brush was used. The drawings are evidently the work of many different hands, of varied degrees of skill. Many are suggestive of being boys' work, and are very rude and careless.

The drawings differ much in aim and character. A large proportion are of the caricature class, rudely, but very spiritedly, drawn in black paint.

I have made a point of obtaining good specimens of each representative class. The only class I have omitted is that of an obscene character, which is not a large one. The class representing fights and hunts is a large and interesting one. It will be noticed that many of the drawings are representative of figures and incidents among white people, also of other native tribes. Some even suggest actual portraiture. The ornamentation of the head-dresses (feathers, beads, tassels, &c.) seems to have claimed much care, and to have given the native artist great pleasure in delineation.

The higher class of Bushman drawings will be seen to indicate correct appreciation of the actual appearance of objects, and evinces very remarkable powers of observation and skill in delineation. Perspective and foreshortening are found correctly rendered. One of the drawings, "Hind view of an ox, or eland," is so remarkable in this respect as to suggest being a lesson or illustration given to a student.

It will be interesting to compare their realisations in respect

of perspective and foreshortening with those of other aboriginal or early artists (*e.g.*, early Greeks, Egyptians, Aztecs, &c.).

The best example in drawing and colouring is the large hunted eland; I copied this one with specially scrupulous fidelity. I found the drawing so remarkable that I procured a very careful examination and verification of it and my copy, on the spot, from a professional artist (Mr. Edwin Rawlins, formerly of London), who decided that, though substantially accurate, a slight advantage in spirit of outline still remained in the original. It will be seen that shading occurs in this example. There is no attempt at texture or effects of light in this or any other case.

Mr. R. DAY, F.S.A., exhibited a very fine jade adze, from New Zealand; a thin jade axe, pierced with two holes, from Wanganui, N.Z.; a jade Mere, or pattoo-pattoo, taken from a Maori during the war of 1871–5; and an ivory celt, found in Island Magee, co. Antrim, Ireland, exhibited on behalf of Lieut.-Colonel Abbott.

NOVEMBER 14TH, 1882.

HYDE CLARKE, Esq., *Vice-President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From W. L. DISTANT, Esq.—Beiträge zur Zoologie, gesammelt auf einer Reise um die Erde. Dritte Abhandlung: Menschen-Raçen. By Dr. F. G. F. Meyen.

From D. C. F. MOODIE, Esq.—The Victorian Review. No. 32.

From Dr. EMIL HOLUB.—Separat-Abdruck aus der Augsburger Allgemeinen Zeitung, vom 2, 3, und 4, September, 1882. By O. Kienitz.

From the AUTHOR.—Gli Angoli dati dal Goniometro faciale laterale sono da correggere. By E. Regalia.

—— Separat-abdruck aus dem Berichte über die Versammlung österreichischer Anthropologen und Urgeschichtsforscher am 12 und 13 August, 1881; zu Salzburg. By Professor Schaaffhausen.

—— The Assyrian Numerals. By G. Bertin.

From the AUTHOR.—Die Engländer in Süd Afrika. By Dr. Emil Holub.

—— Dr. Holub's Ausstellung. Katalog der im Pavillon des Amateurs im k. k. Prater ausgestellten Objecte. 1 Theil. Der Mensch.

—— Su gli Elefantí Fossili della Valle del Liri. By Giustiniano Nicolucci.

—— Crania Pompeiana. By Giustiniano Nicolucci.

—— Sopra i Teschi Umani rinvenuti negli scavi dell'antica città di Metaponto in Provincia di Basilicata. By Giustiniano Nicolucci.

—— I primi Uomini: Studio Antropologico. By Giustiniano Nicolucci.

—— Unwritten History, and how to read it. By John Evans, D.C.L., LL.D., F.R.S.

—— Die Colonisation Afrikas. Heft 4. By Dr. Emil Holub.

—— Elephanten-Jagden in Süd Afrika. By Dr. Emil Holub.

—— Charles Robert Darwin. Ein Nachruf. By Professor Schaaffhausen.

—— Alttrojanische Gräber und Schädel. By Professor Virchow.

From the ITALIAN ANTHROPOLOGICAL SOCIETY.—Archivio per l'Antropologia e la Etnologia. Vol. XII, Fas. 1, 2.

From the GOVERNMENT OF THE PUNJAUB.—Appendix to "Changars" and Linguistic Fragments. By G. W. Leitner, LL.D.

—— Section I of Linguistic Fragments. By G. W. Leitner, LL.D.

From the ANTHROPOLOGICAL SOCIETY OF LYONS.—De l'Alimentation chez les Peuples Sauvages et les Peuples Civilisés. By Dr. Paul Cazeneuve.

—— L'Homme Criminel comparé a l'Homme Primitif. By Dr. Lacassagne.

From the ANTHROPOLOGICAL SOCIETY OF BERLIN.—Zeitschrift für Ethnologie, 1882. Heft 2–4.

From the UNIVERSITY OF TOKIO.—The Chemistry of Saké-Brewing. By Professor R. W. Atkinson.

From the ACADEMY OF SCIENCES, KRACOW.—Lud. Serya XIV. Część VI.

—— Pamiętnik Akademii Umiejętności w. Krakowie. Tom. VI.

From the KONGL. VITTERHETS HISTORIE OCH ANTIQVITETS AKADEMIEN (STOCKHOLM).—Antiqvarisk Tidskrift för Sveríge. Del. I–IV, V, 1–3; VI, 1, 2, 4.

—— Akademiens Månadsblad årg. 1872–81.

—— Hildebrand, B.E. and Hildebrand, Hans.—Teckningar ur Svenska Statens Historíska Museum. Heft 1, 2.

From the BATAVIAN ASSOCIATION OF ARTS AND SCIENCES.—Realia: Register op de Generale Resolutiën van het Kasteel Batavia. 1632–1805.

—— Verhandelingen van het Bataviaasch Genootschap van Kunsten en Wetenschappen. Deel XLI, 2, 3; XLII, 1; XLIII.

—— Notulen van de Algemeene en Bestuurs-Vergaderingen van het Bataviaasch Genootschap. Deel XVIII, 1–4; XIX, 1–4.

From the BATAVIAN ASSOCIATION OF ARTS AND SCIENCES.—Tijdschrift voor Indische Taal-, Land-en Volkenkunde. Deel XXVI, Afl. 2–6; XXVII, 1–5.

—— Tabel van Oud-en Nieuw-Indische Alphabetten. By R. F. Holle.

From the GOVERNMENT OF MADRAS.—Administration Report of the Government Central Museum for the year 1881–2.

From the CEYLON BRANCH OF THE ROYAL ASIATIC SOCIETY.—Pānini's eight books of Grammatical Sūtras. Edited by W. Goonetilleke.

From the AMERICAN ANTIQUARIAN SOCIETY.—Phonetics of the Kayowē Language. By Albert S. Gatschet.

From the ASSOCIATION.—Journal of the Royal Historical and Archæological Association of Ireland. January, 1882; April, 1882; July, 1882.

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—— Report and Transactions of the Devonshire Association for the Advancement of Science, Literature, and Art. Vol. XIV.

From the ACADEMY.—Atti della R. Accademia dei Lincei. Vol. VI, fas. 13, 14.

—— Sitzungsberichte der K.-Kaiserlichen Akademie der Wissenschaften, Wien. Philos-Histor. Classe. Jahrgang, 1881, 98 Band, Heft 3; 99 Band, Heft 1, 2. Math.-Naturw. Classe. I, Abthlg., 1881, Nos. 5–10; II, Abthlg., 1881, Nos. 5–10; 1882, Nos. 1, 2; III, Abthlg., 1881, Nos. 3–10.

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From the INSTITUTE.—Transactions and Proceedings of the New Zealand Institute. Vol. XIV, 1881.

—— Proceedings of the Royal Colonial Institute. Vol. XIII.

From the INSTITUTION.—Journal of the Royal United Service Institution. Nos. 116, 117.

—— List of Foreign Correspondents of the Smithsonian Institution. Corrected to January, 1882.

From the CLUB.—Transactions of the Epping Forest and County of Essex Naturalists' Field Club. July, 1882.

—— Proceedings of the Berwickshire Naturalists' Field Club. Vol. IX, No. 3.

From the UNIVERSITY.—University of Durham College of Medicine, Newcastle-upon-Tyne. Prospectus for Sessions 1882–3.

From the SOCIETY.—Bulletins de la Société d'Anthropologie de Paris, 1882. Mars et Avril.

—— Journal of the Society of Arts. Nos. 1545–1564.

—— Proceedings of the Royal Geographical Society, 1882. July–November.

—— Proceedings of the Royal Society. Nos. 220, 221.

—— Proceedings of the Asiatic Society of Bengal, 1882. April–June.

—— Transactions of the Royal Society of Literature. Vol. XII, Part 3.

From the SOCIETY.—Bulletin de la Société de Borda, Dax. 1882. Parts 2, 3.
—— Journal of the Royal Asiatic Society. Vol. XIV, Parts 3, 4.
—— Mittheilungen der k. k. Geographischen Gesellschaft in Wein, 1881.
—— Transactions of the Asiatic Society of Japan. Vol. X, Part 1.
—— Report and Proceedings of the Royal Society of Tasmania, 1880.
—— Boletim da Sociedade de Geographia de Lisboa. 2ª Serie, Nos. 11, 12; 3ª Serie, Nos. 1–4.
—— Annual Report of the Leeds Philosophical and Literary Society, 1881–2.
—— Proceedings of the Society of Antiquaries of London. Vol. VIII, No. 5.
—— Bulletin de la Société d'anthropologie de Lyon. No. 1.
—— Bolletino della Societá Africana d'Italia, 1882. Fas. 1–3.
—— Mittheilungen der Anthropologischen Gesellschaft in Wien. Band XI, Hefte 3, 4; Band XII, Hefte 1, 2.
—— Einundzwanzigster Bericht der Oberhessischen Gesellschaft für Natur-und Heilkunde.
—— Journal of the Asiatic Society of Bengal. Nos. 247, 248.
—— Bulletin de la Société Impériale des Naturalistes de Moscou. 1881. No. 4.
—— Table Générale et Systematique des Matières, contenuès dans les premiers 56 volumes (années 1829-1881) du Bulletin de la Société Impériale des Naturalistes de Moscou.
—— Transactions and Proceedings of the Geographical Society of the Pacific, 1881.
—— Vierter Jahresbericht des Vereins für Erdkunde zu Metz, pro 1881.
—— Journal of the Ceylon Branch of the Royal Asiatic Society. Vol. VII, Part 2.
—— Bulletin de la Société des Sciences Naturelles de Neuchatel. Tom. XII, Part 3.
—— Proceedings of the Society of Biblical Archæology, 1881-2.
From the SECRETARY GENERAL.—Quatrième Congrès International d'Hygiène et de Démographie a Genève, 1882. Programme.
From the CONDUCTOR.—The Scientific Roll. August, 1882.
From the EDITOR.—"Nature." Nos. 661–680.
—— Revue Scientifique. Tom. XXX, Nos. 1–20.
—— Bulletino di Paletnologia Italiana. No. 6, 1882.
—— Revue d'Anthropologie. Nos. 3, 4, 1882.
—— The American Antiquarian. July, October, 1882.
—— Correspondenz-Blatt. July, August, September, 1882.
—— Timehri. Vol. I, Part 1.
—— The Field Naturalist and Scientific Student. Nos. 2–4.

The following new members were announced:—

Baron JOSEPH DE BAYE; EDWARD BERDOE, Esq., M.R.C.S.; Rev. R. H. CODRINGTON, M.A.; Colonel H. W. KEAYS-YOUNG; and J. WICKHAM LEGG, Esq., F.R.C.P.

Mr. R. W. FELKIN exhibited a Darfur boy brought to England by him in 1879, and made the following remarks :—

Suleiman Capsune, aged about eleven years, belongs to the Fur tribe of Central Africa. His birthplace was about 15 miles south-south-west of Dara. He was caught and made a slave when about six years old, his father and three brothers being killed in his defence. He is an intelligent sharp boy, and learns quickly, but has a tendency to spell and write backwards. This I think noteworthy, as his father had been taught to write and read Arabic. The Fur tribe is noted for being a warlike one, and, according to Arab statistics, numbers about one million. The cuts on the boy's face are not tattoo but slave marks. I have no further information about this tribe to offer to the Institute on this occasion, but have brought the boy here to-night as I may not have another opportunity of introducing him to the members.

Mr. FRANCIS GALTON exhibited an apparatus for testing the delicacy of the muscular sense, and read the following paper :—

On APPARATUS *for* TESTING *the delicacy of the* MUSCULAR *and other* SENSES *in different persons.* By FRANCIS GALTON, F.R.S.

I SUBMIT a simple apparatus that I have designed to measure the delicacy of the sensitivity of different persons, as shown by their skill in discriminating weights, identical in size, form, and colour, but different in specific gravity. Its interest lies in the accordance of the successive test-values with the successive graduations of a true scale of sensitivity, in the ease with which the tests are applied, and in the fact that the same principle can be made use of in testing the delicacy of smell and taste. I use test weights that would mount, in a series of "just perceptible differences," to an imaginary person of extreme delicacy of perception. The lowest weight is heavy enough to give a decided sense of weight to the hand when handling it, and the heaviest weight can be handled without any sense of fatigue. Their value being calculated according to Weber's law, they run in a geometric series—thus, WR^0, WR^1, WR^2, WR^3, &c.,—and they bear, as register marks, the values of the successive indices 0, 1, 2, 3, &c. It follows that if a person can just distinguish between any particular pair of weights, he can also just distinguish between any other pair of weights, whose register marks differ by the same amount. Example :—suppose A can just distinguish between the weights bearing the register marks 2 and 4, then it follows, from the construction of the apparatus, that he can just distinguish between those bearing

the register marks 1 and 3, or 3 and 5, or 4 and 6, &c., the difference being 2 in each case. There can be but one interpretation of the phrase that the dulness of muscular sense in any person, B, is twice as great as in another person, A. It is that B is only capable of perceiving one grade of difference, where A can perceive two. We may of course state the same fact inversely, and say that the delicacy of muscular sense is twice as great in A as in B; similarly in all other cases of the kind. Conversely, if having known nothing previously about either A or B, we discover on trial that A can just distinguish between two weights, such as those bearing the register marks 5 and 7, and that B can just distinguish between another pair, say, bearing the register marks 2 and 4, then since the difference between the marks in the latter case is twice as great as in the former, we know that the dulness of the muscular sense of B is exactly twice that of A. Their relative dulness, or, if we prefer to speak in inverse terms, and say their relative sensitivity, is determined quite independently of the particular series of weights used in testing them. It will be noted that the conversion of results obtained by the use of one series of test weights into what would have been given by another series, is a piece of simple arithmetic, the fact ultimately obtained by any apparatus of this kind being the "just distinguishable" fraction of real weight. In my own apparatus, the unit of weight is 2 per cent., that is to say, the register mark 1 means 2 per cent.; but I interpolate weights in the earlier part of the scale that deal with half-units, that is, with differences of 1 per cent. In some other apparatus, the unit of weight might be 3 per cent., then three of my grades would be equal to two of the other, and my scale would be converted to the other scale by multiplying it by two-thirds. Thus the results obtained by different apparatus are strictly comparable.

A sufficient number of test weights must be used in the trials to eliminate the influence of chance. It might be thought that by using a series of only five weights, and requiring them to be sorted into their proper order by the sense of touch alone, the chance of accidental success would be too small to be worth consideration. It might be said that there are $5 \times 4 \times 3 \times 2$, or 120 different ways in which five weights can be arranged, and as only one is right it must be 120 to 1 against A. But this is manifold too high an estimate, because the 119 possible mistakes are by no means equally probable. When a person is tested, an approximate value for his grade of sensitivity is rapidly found, and the inquiry becomes narrowed to finding out whether he can surely pass a particular level. At this stage of the inquiry there is little fear of a gross mistake.

He is little likely to make a mistake of double the amount in question, and it is almost certain that he will not make a mistake of treble the amount. In other words, he would never be likely to put one of the test weights more than one step out of its proper place. If he had three weights to arrange in their consecutive order, 1, 2, 3, there would be $3 \times 2 = 6$ ways of arranging them. Of these he would be liable to the error of 1, 3, 2, and of 2, 1, 3, but he would hardly be liable to such gross errors as 2, 3, 1, or 3, 2, 1, or 3, 1, 2. Therefore, of the six permutations in which three weights may be arranged, three have to be dismissed from consideration, leaving three cases only to be dealt with, of which two are wrong and one is right. For the same reason there are only four reasonable chances of error in arranging four weights, and only six in arranging five weights, instead of the 119 that were originally supposed; these are—

1, 2, 3, 5, 4;	1, 3, 2, 4, 5;	1, 3, 2, 5, 4;
2, 1, 3, 4, 5;	2, 1, 3, 5, 4;	2, 1, 4, 3, 5.

But exception might be taken to two even of these, namely, those that appear in the third column, where 5 is found in juxtaposition with 2 in the first case, and 4 with 1 in the second. So great a difference between two adjacent weights would be almost sure to attract the notice of the person who was being tested, and make him dissatisfied with the arrangement. Considering all this, together with the convenience of carriage and manipulation, I prefer to use trays, each containing only three weights, the trials being made three or four times in succession. In each trial there are 3 possibilities, and only 1 success; therefore, in three trials, the probabilities against uniform success are as 27 to 1, and in four trials as 81 to 1.

Values of the Weights.

After preparatory trials, I adopted 1,000 grains as the value of W, and 1,020 as that of R. I made the weights by filling blank cartridges with shot, wool, and wads, so as to distribute the weight equally. I closed the cartridges with a wad, turning the edges over it with the instrument well known to sportsmen. On the wad by which each of them was closed, I wrote the corresponding value of the index of R, to serve as a register number. Thus, the cartridge whose weight was WR^4 was marked 4. The values were so selected that there should be as few varieties as possible. There are thirty weights in all, but only ten varieties, whose register numbers are respectively 0, 1, 2, 3, $3\frac{1}{2}$, $4\frac{1}{2}$, 5, 6, 7, 9, 12. The reason of this was to enable the weights to be interchanged whenever there became reason to

suspect that the eye had begun to recognise the appearance of any one of them, and that the judgment might be influenced by that recognition, and cease to be wholly guided by the sense of weight. We are so accustomed to deal with concurrent impressions that it is exceedingly difficult, even with the best intention of good faith, to ignore the influence of any corroborative impression that may be present. It is therefore right to take precaution against this possible cause of inaccuracy. The most perfect way would be to drop the weights, each in a little bag or sheath of light material, so that the operator could not see the weights, while the ratio between the weights would not be sensibly changed by the additional weight of the bags.

Arrangement of the Weights.

The weights are placed in sets of threes, each set in a separate shallow tray, and the trays lie in two rows in a box. Each tray bears the register marks of each of the weights it contains. It is marked boldly with a Roman numeral, showing the difference between the register marks of the adjacent weights. This difference indicates the grade of sensitivity that the weights in the tray are designed to test. Thus, the tray containing the weights WR^0, WR^3, WR^6, is marked as in fig. 1, and that which contains WR^2, WR^7, WR^{12}, is marked as in fig. 2.

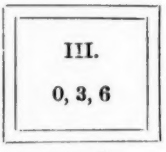


FIG. 1.

FIG. 2.

The Roman numerals in the following tables show the order of the arrangement of the trays in the box:—

Just perceptible ratio.	Grade of sensitivity.	Sequences of weights.	Just perceptible ratio.	Grade of sensitivity.	Sequences of weights.
1·020	I.	1, 2, 3	1·030	I½	2, 3½, 5
1·040	II.	3, 5, 7	1·050	II½	2, 4½, 7
1·061	III.	0, 3, 6	1·071	III½	0, 3½, 7
1·082	IV.	1, 5, 9	1·082	IV½	0, 4½, 9
1·104	V.	2, 5, 7	1·127	VI	0, 6, 12

The triplets they contain suffice for ordinary purposes, but it will be observed that sequences of a half can also be obtained,

and, again, that it is easy to select doublets of weights for coarser tests in medical cases of deficient sensibility up to a maximum difference of XII.

Manipulation.

A tray is taken out, the three weights that it contains are shuffled by the operator, who then passes them on to the experimentee. The latter sits at ease, with his hand in an unconstrained position, and lifts the weights in turn between his finger and thumb, the finger pressing against the top, the thumb against the bottom of the cartridge. Guided by the sense of weight alone, he arranges them in the tray in what he conceives to be their proper sequence. He then returns the tray to the operator, who notes the result; the operator then re-shuffles the weights, and repeats the trial. It is necessary to begin with coarse preparatory tests, to accustom the operatee to the character of the work. After a minute or two the operator may begin to record results, and the testing may go on for several minutes, until the hand begins to tire, the judgment to be confused, and blunders to arise. Practice does not seem to increase the delicacy of perception after the first few trials so much as might be expected.

The tests show the sensitivity at the time they are made, and give an approximate measure of the discrimination with which the operatee habitually employs his senses. It does not measure his utmost capacity for discrimination, because the discriminative faculty admits of education. However, the requirements of everyday life educate all our faculties in some degree, and I have not found the performances with test weights to improve much after a little familiarity with their use.

I did not at first find it at all an easy matter to make test weights so much alike as to differ in no other appreciable respect than in their specific gravity, even though I used the machine-made cartridge cases. Two bodies may be alike in weight and outward appearance, and yet behave differently when otherwise mechanically tested, and consequently when they are handled. For example, take two eggs—one raw and the other hard-boiled—and spin them on the table; press the finger for a moment upon either of them, whilst it is still spinning. If it be the hard-boiled egg it will stop as dead as a stone; if it be the raw egg, after a little apparent hesitation, it will begin again to rotate. The motion of its shell had alone been stopped, the internal part was still rotating, and this compelled the shell to follow it. Owing to this cause, when we handle the two eggs the one feels "quick," and the other

does not. Similarly with the cartridges, when one is rather more loosely packed than the others, the difference is perceived on handling them, and the knowledge so acquired vitiates future judgments in various indirect ways. A cartridge may have one end heavier than the other, or else its weight may not be equally distributed round its axis, so as to cause it to rest on the table with the same part always lowermost; and these differences also are easily perceived when handling them.

Again, two cartridges may balance perfectly in all directions, and yet their weight may be disposed too much towards the ends, as in a dumb-bell, or gathered too much towards the centre. The period of oscillation will differ widely in the two cases, as may be shown by suspending the cartridges by strings round their middles, so that they shall hang horizontally, and then, by a slight tap, making them twirl to and fro round the string as an axis. The touch is very keen in distinguishing all these peculiarities. I have mentioned them to show that experiments on sensitivity have to be made in the midst of pitfalls, warily to be avoided. Our apparently simplest perceptions are very complex; we hardly ever act on the information given by only one element of one sense, and our sensitivity in any desired direction cannot be rightly determined, except by carefully devised apparatus, judiciously used.[1]

The trials I have as yet made on the sensitivity of different persons confirm the reasonable expectation that it would, on the whole, be highest among the intellectually ablest. At first, owing to my confusing the quality of which I am speaking with that of nervous irritability, I fancied that women with delicate nerves who are distressed by noise, sunshine, &c., would have acute powers of discrimination. But this I found not to be the case. In morbidly sensitive persons, both pain and sensation are induced by lower *stimuli* than in the healthy, but the number of just perceptible grades of sensation between the two is not necessarily altered.

I found, as a rule, that men have more delicate powers of

[1] *Note by the Author, March*, 1883.—The sense of muscular effort may be isolated from the sense of touch by holding the test object in the extended hand, palm uppermost, while the back of the hand rests on the padded bars of a stirrup which is suspended from a string. The string passes over pulleys, and is attached to a weight sufficient to urge the stirrup upwards with the same force that the test object urges the hand downwards. At this moment no muscular effort is exerted to sustain the test object, but let the stirrup be suddenly depressed, and then, without any alteration of the sense of touch in the palm of the hand, a sudden sense of effort is called into existence to supply the loss of support. The fact of the soft and broad pressure having been removed from the back of the hand does not affect the judgment; it is so different in locality and in quality to the sense of effort that it is unobserved while the attention is fixed on the latter.

discrimination than women, and the business experience of life seems to confirm this view. The tuners of pianofortes are men, and so, I understand, are the tasters of tea and wine, the sorters of wool, and the like. These latter occupations are well-salaried, because it is of the first moment to the merchant that he should be rightly advised on the real value of what he is about to purchase or to sell. If the sensitivity of women were superior to that of men the self-interest of merchants would lead to their being always employed, but as the reverse is the case the opposite supposition is likely to be the true one.

Blind persons are reputed to have acquired, in compensation for the loss of their eyesight, an increased acuteness of their other senses. I was therefore curious to make some trials with my test apparatus, and I was permitted to do so on a number of boys at a large educational blind asylum, but found that, although they were anxious to do their best, their performances were by no means superior to those of other boys. It so happened that the blind lads who showed the most delicacy of touch, and won the little prizes I offered to excite emulation, barely reached the mediocrity of the sighted lads of the same ages whom I had previously tested. I have made not a few observations and inquiries, and find that the guidance of the blind depends mainly on the multitude of collateral indications to which they give much heed, and not in their superior sensitivity to any one of them. Those who see do not care for so many of these collateral indications, and habitually overlook and neglect several of them. I am convinced, also, that not a little of the popular belief concerning the sensitivity of the blind is due to occasional exaggerated statements that have not been experimentally verified.

Mr. GALTON hoped that the apparatus he had described might serve as a basis of discussion as to the instruments best adapted to form part of an anthropometric laboratory, intended to deal with the measurement of the various human faculties, so far as it was feasible to do so.

DISCUSSION.

Professor CROOM ROBERTSON did not feel competent, at that time, to enter upon the general subject of psychical measurements which Mr. Galton had proposed for discussion, but he had been greatly struck both by incidental remarks of psychological value in the paper, and by the ingenuity and care with which Mr. Galton had devised the apparatus of which special account was given. He wished more particularly to know whether, as the present apparatus was obviously adapted to the testing of "muscular

sense" in its compound form, inclusive of touch, or skin-sensation, it had occurred to Mr. Galton to devise any means for measuring the muscular sense to the exclusion of touch. Though in practice we apprehend weight and other such qualities of matter through muscular organs, which were also tactile, it was not easy to distinguish the two elements of touch and muscular sense proper combined in any case. The difference of opinion prevailing among authorities as to the precise character of the nerve-process involved in our consciousness of the act of putting forth energy by way of muscle did not affect its independence as a real factor of experience. If the element of skin-sensation (passive pressure) could be eliminated by being rendered practically constant, muscular sense might then be tested in its purity. Perhaps Mr. Galton would say whether his attention had been directed to this aspect of the question.

Dr. CAMPS said that he wished to ascertain from the author of the admirable paper just read, Mr. Galton, if he was prepared to maintain his belief in the existence of more than five senses, and that mankind were endowed with a sixth sense which he had termed muscular sense. We had all been taught that mankind were endowed with but five senses, namely, those of sight, of hearing, of smell, of taste, and of touch. For his (Dr. Camps') own part, he was disposed to regard the so-called muscular sense, as only a modification of the sense of touch. Cutaneous or cuticular sensibility had been mentioned by a previous speaker, and on that subject he (Dr. Camps) said there existed a marked difference in different individuals, in regard to the development of the sensibility of the skin. Dr. Weber, whose name had been mentioned by the author of the paper, had invented an instrument—the *æsthesiometer*—by means of which the difference in regard to cutaneous or cuticular sensibility in different individuals could be measured or appreciated. Dr. Brown Sequard, now in Paris, so well known for his researches on the pathology and physiology of the nervous system, had given considerable attention to this subject, by the examination of a large number of persons.

Mr. JOSEPH JACOBS wished to know what arrangements had been made by Mr. Galton to determine the starting-point in his test weights, as this appeared to be 1,000 grains for all subjects. Now the logarithmic law, on which the whole investigation rested, only applies beyond a certain minimum of sensibility: it only applies "over the threshold," as the Germans say. But this threshold differs for each person, and to take the same threshold for all subjects was equivalent to taking one (logarithmic) curve for all, whereas each has a different curve with a differing constant. Unless, therefore, some means had been adopted to obviate this objection the whole method of the investigation would appear to be vitiated. It further seemed hazardous, under the present conditions of woman's social position, to judge the relative capacity for discrimination in the two sexes from the bare fact that women were not employed in some occupations. In one case known to the

speaker, that of sorters of ivory for piano keys, the selectors were almost invariably women.

Mr. GALTON, in reply, admitted that the title of his paper was somewhat inappropriate; he had, in fact, intended to submit other apparatus as well, including a rather delicate instrument he had designed, but not yet made much use of, for determining the delicacy with which different degrees of pressure could be discriminated. By using this in connection with the test weights the influence of the sense of pressure might be got rid of, in the same way that an unknown quantity that enters into two equations can be eliminated. There were yet other instruments that he had intended at first to bring, but, thinking it would be difficult to exhibit them properly all at once, he had at the last moment refrained from bringing them. His apparatus on the table really professed to do no more than deal with the aggregate of the many sensations that concurred in enabling a person to discriminate between two different weights by handling them. Besides these different elements of sensation concerned in the process to which allusion had been made, there was another important one due to the inertia of the weights, as perceived by the pressure upon the thumb and finger while wagging the cartridges to and fro. The geometric series he had used was quite approximate enough when the initial weight is not too near to that which corresponds (in technical phraseology) to "the threshold" of sensation, and when the heaviest weight is not nearly heavy enough to excite fatigue. The numerical values of the middle terms of the scale of sensation come out much the same whether they have been calculated as a simple geometric series, or according to the more complicated formulæ of the investigators who have endeavoured to improve upon the earlier form of Weber's law.

NOVEMBER 28TH, 1882.

Lieut.-General PITT-RIVERS, F.R.S., *President, in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From Colonel ALMONTE.—Historia de la Geografía del Perú. Libro 1. By Antonio Raimondi.

——El Departamento de Ancachs y sus Riquezas Minerales. By A. Raimondi.

From the AUTHOR.—On the History of the Archaic Chinese Writing and Texts. By Terrien de Lacouperie, M.R.A.S.

From the STATE BOARD OF HEALTH, MASSACHUSETTS.—Fortieth Report of the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth for the year ending December 31st, 1881.
From the SMITHSONIAN INSTITUTION.—First Annual Report of the Bureau of Ethnology. 1879-80.
From the SOCIETY.—Transactions and Proceedings of the Royal Society of Victoria. Vol. XVIII.
—— Journal of the Society of Arts. Nos. 1565, 1566.
—— Journal of the North China Branch of the Royal Asiatic Society. 1882, Part 1.
From the CONDUCTOR.—The Scientific Roll. No 9.
From the EDITOR.—Matériaux pour l'Histoire de l'Homme. Tom. XIII. 5e, 6e, et 7e liv.
—— Nature. Nos, 681, 682.
—— Revue Scientifique. Tom. XXX, Nos. 21, 22.

The following paper was read by the author:—

On the PEOPLE *and* LANGUAGE *of* MADAGASCAR.

By Dr. G. W. PARKER.

1. *The People of Madagascar.*

THE position of Madagascar on the map of the world is peculiar: for nowhere else do we see so large an island close to a large continent, yet so little connected with it or with any other land. In size it is also exceptional, being by far the largest among all the islands connected with Africa, its length being about 960 miles, and its width varying up to about 300 miles at its widest part. Its east coast, for nearly the whole of its length, is almost a straight line; while the west coast has been variously indented by the action of the current which sweeps down the Mozambique Channel, which divides Madagascar from Africa.

The population of the entire island has been estimated to be from 4,000,000 to 4,500,000; but on this point nothing certain can be stated, because no census of any tribe has yet been taken, and because the population is decimated from time to time by epidemic diseases; while witchcraft, infanticide, inter-tribal wars for cattle- and slave-stealing, and murders, are daily altering the amount of the population.

The chief structural features of this island are the following:—Around the coast is a tract of nearly level, or only gently undulating, country—in many places showing traces of comparatively recent upheaval from below the sea-level; the general altitude of this level tract being less than 100 feet above the

sea-level. Here the climate and the vegetation are tropical, and here too malarial disease and fever ever reside, the only drinking-water obtainable in many places being that from half-stagnant pools on the surface of the soil. This belt of lowlands is from ten to thirty miles in width, and its inner limit is formed by a range of mountains which gradually rise up to the height of nearly 2,000 feet. Between this again and the higher central plateau of the interior there runs a valley, in one place wide enough to allow of the formation of a large lake (*Lake Aldotra*), and of extensive marshes; while this valley is limited on its inner side by the high wall-like side of the central plateau. This plateau averages 4,000 feet above the sea-level, and on it again there arise a great number of mountains—chiefly of volcanic origin—one of which is nearly 9,000 feet in height above the sea.

This peculiar structure of the island causes a corresponding variety in the climates found in the island; there being a tropical climate all round the coast, especially on the west and north-west parts (which the central highlands shelter from the healthy south-east trade-wind), and a sub-tropical or nearly temperate climate everywhere else.

All round the island there is a belt of forest, often splitting into two parts, which enclose fertile valleys teeming with people; and these structural peculiarities of the island also influence the flora of Madagascar.

The native inhabitants of Madagascar are divisible into two distinct classes. To the first class belong the Hovas only, who are of Malay origin, with yellow skins, long straight hair, flat faces, perpendicular (or, rather, re-entrant) profile, and with plenty of energy, but rather treacherous. The second class comprises all the rest of the Malagasy people, and their African origin is shown by their darker skin (often black), woolly hair, and prognathous profile. These are less commercially energetic, but more trustworthy than the Hovas. This second class, for nearly a hundred years, has been constantly receiving a fresh stock of African blood, in the shape of slaves imported from the interior of Africa, a traffic only lately made illegal in the Hova dominions.

The forms of government of the different tribes, speaking generally, are like those found among most savage nations, allegiance being given to some "king" whose sway often extends not farther than a mile or two from his chief (and often his only) town, but whose power is absolute within this little territory, although he is liable to be turned out by some more powerful neighbour. When strong enough he will hand down his power to his son, but more usually the lands forcibly acquired

by one man are, at his death, divided among the sons of his several wives (for the Malagasy are polygamists), who naturally try to "eat each other up," as the Malagasy say.

The Hovas, however—among whom Christian and European influences have been at work for more than half a century—have a totally different form of government: one which, I believe, is unique in the history of the human race. Until A.D. 1860, the form of government already described was possessed by the Hovas also. But when the young Hova king, Radàma II., was assassinated by some of his courtiers, and one of his wives put on the throne as his successor, the family of the present Prime Minister rose into power. The office of "Prime Minister,"[1] although in existence before, derived additional importance as the chief means by which the absolute power of the Hova crown might be held in check; and as this office may never be held by any person of princely rank (lest such *prince* should make himself *king*, his power as Prime Minister being nearly regal), the Hovas are likely to have a succession of queens for many years to come. The Prime Minister for the time being is *ex-officio* husband to the queen, living with her in the palace, and going wherever she goes. This office has been already held by three members of the same family in succession, and will probably become hereditary, or limited to that family only. As the Prime Minister, besides being the queen's husband, is also head-judge, head-general, head-councillor, and, indeed, *factotum* to the Hova queen—there being no appeal from his decision except to her, and even then *only through him*,—and as nearly all the important offices in the State are given only to members of the Prime Minister's family, the Hova Government may be described as *nominally* an absolute monarchy, but *really* an oligarchy, whose head has practically royal power.

The Hovas are the only Malagasy tribe which possesses a distinct code of laws. Most of their laws are copied from our English laws. To discuss these Hova laws here would occupy too much time, but a comparison of the two last codes, published within the last twenty years, enables me to state briefly that the condition of the slaves is improved, slaves now being able to attend school if they like, but liable to be removed at their owners' pleasure; the marriage-tie is made less loose, and marriages are obliged to be registered; divorce is more difficult; criminals, and persons who have been non-suited in a law-court,

[1] Throughout the north and west parts of Madagascar (and perhaps elsewhere) the petty "kings" have invariably a man filling the office of *factotum*, or Prime Minister, under the name of "Landowner," but *only among the Hova tribe* is this official the queen's husband. The Tanàla (a forest tribe) had also a queen until lately, but she had a husband as well as a Prime Minister.

have now the option of working out the money value of the fine, &c., which they cannot pay, either by imprisonment only or by working for the State, their time and labour being valued at a fixed rate. Various Cabinets have been formed among the Hova government officials, in order to help the Prime Minister in transacting state affairs; education is regulated, and made compulsory between the ages of eight and sixteen years; finally, these new laws are more mild than those made during the period when idolatry was the religion of the Hova kings.

The religion of the Malagasy in general is *fetishism;* but, underlying all their ignorance, there is a dim, shadowy idea of a *Being,* or rather a *Something,* superior and more powerful than mere ghosts, able to do them harm or good, as he pleases. They also believe in the life of the spirit ("the essential part of me," as a Malagasy calls it) apart from the body, and able to live after the death of the body. These "ghosts" they believe capable of causing diseases and doing harm in various ways, unless appeased by occasional gifts; hence, wherever a Malagasy may happen to die, even if in war, his body must be brought back to be buried among his friends (he generally builds his intended tomb during his lifetime), otherwise his homeless ghost will be a source of mischief to everybody. In one or two places, wooden idols, roughly carved into the human form, have been seen; but the Hova idols (burned when the present queen professed Christianity) were merely dirty bundles of coloured rags and feathers. The Malagasy are also strong believers in witchcraft and charms.

In consequence of their belief in ghosts and spirit-life (if not actually in the *immortality* of the spirit) the Malagasy pay great respect to tombs and to dead bodies. There are two modes of burial—in the ground and in trees. The latter plan is followed by some of the tribes who inhabit the dense forests, where it is easier to wrap up a dead body in mats and place it in the fork of a tree-bough, to rot there, than to dig and build a grave, as is done elsewhere. When the body is buried in the ground great care is taken (often during the lifetime of the intended occupant himself) to make the grave a durable subterranean chamber, with a stone door, stone walls, and stone slabs for the reception of the bodies; the object of this durability being twofold—to propitiate the ghosts of the dead by the survivors' care of their homes (*i.e.,* of the dead bodies), as well as to enable the friends of the deceased to enter the tomb at the season when the bodies are annually "turned" and wrapped in a fresh grave-cloth. Usually, a number of oxen are killed at the funeral feast, which often lasts several days, their bleaching skulls being ranged, as an ornament, all round

the tomb when finished. These are the two usual modes of burial among the Malagasy; but I do not know whether, in those parts of the island where the Baobab-tree is found, they do or do not follow the custom of their African relatives of excavating sepulchral chambers inside the trunk of this tree.

With regard to internal communication in Madagascar, good roads ought to be made, especially in the north and south direction—in which direction most of the large valleys run: the cost of making them in this direction being comparatively little. Especially ought the chief natural harbours to be connected, by telegraphs as well as by roads, with Antanànarivo. In the transit of goods into or from the interior, the goods might be carried in canoes farther than they are; but between the low belt of land near the coast and the height of 4,000 feet, goods must still be carried on men's shoulders until the roads are made. But when once arrived on the central plateau, the numerous rivers there should be utilised more than they are.

With regard to its communications with other countries, and its friendly relations with them, and the degree in which these are influenced by the physical configuration of the island, time will not suffice for me to say much. It is a compact island, close to Africa on the one side—the Comoro Islands connecting them for trading purposes—and to Mauritius, Bourbon, and many small islands on the other. On the coast are a number of fine estuaries, usually more or less blocked up by sand-bars; but all these rivers, inside their bars, are navigable for small craft far into the interior. And there are also many fine harbours and bays not thus objectionable, notably those of Tamatave (in the centre of the east coast), the rivers Ikòpa and Bètsibòka (in the north), St. Augustine's Bay (in the south-west), and one or two rivers on the southern part of the east coast.

As regards the commercial relations maintained with other countries, Madagascar exports considerable quantities of rice, oxen, and ox-hides, especially supplying Mauritius and Bourbon with beef for food. Natal also has begun to share in this trade, and it would be worth their while if a greater number of merchants would trade with Madagascar. The Hovas have made treaties with the English, French, Americans, and Germans, consuls of these nations being resident in the island. Ere long, Tamatave will probably become a coaling-station for steamers, which will thereby be attracted to that excellent natural harbour. At first, all the coal sold there must be brought from other countries, but sooner or later the present Hova restrictions against mining will have to be abandoned, and then Malagasy coal will be procurable there.

The following is a short sketch of the history of Madagascar up to the present time:—

The island has been known to Europeans only since the beginning of the seventeenth century, although the Arabs traded with Madagascar long before that time. The first Europeans who visited the island were the Portuguese, but they made use of it only as a place where they might re-stock their ships with water and fresh food, and repair them if necessary. The Dutch next came, settling in the neighbouring island of Mauritius (called after their Stadtholder Maurice), but left Madagascar itself alone. Then followed the French and the English. The former nation formed two settlements in Madagascar itself, in the north-east and south-east parts of the coast, besides occupying two islands off its coast, viz. Nòsibè (Big Island; on the north-west) and Ste. Marie (on the north-east). These two islands are still held by the French, but their settlements on the mainland of Madagascar were re-captured by the natives. The English colony was placed at St. Augustine's Bay, on the south-west coast; but from mismanagement it was abandoned. The English also bought some land on the east coast, and formed a settlement there too; but although this also was abandoned (probably on account of the fatal coast-fever), I have nowhere seen it stated that the land was either given back to the natives, or bought back by them, or re-captured. At some future date the English might (as the French most surely would if they had so good a pretext) urge the recovery of this land as the ground for seizing the whole of Madagascar!

When Mauritius fell into the hands of the English (about A.D. 1816), the first English governor of it, Mr. Farquhar, soon turned his attention to the extensive traffic in slaves for which Madagascar was then notorious. This inhuman traffic, it is said, was originated by the pirates, who, haunting the shores of Madagascar until their depredations brought down the fleets of European Powers upon them, betook themselves to slave-trading as a safer way of earning their living. Mr. Farquhar made an alliance with one of the Hova chiefs, Radàma I., whereby Radàma pledged himself to stop the exportation of Malagasy people from the island, by means of arms, &c., to be given him by the English. At the same time, the first English Resident, Mr. Hastie, was placed at Radàma's newly-captured capital, Antanànarivo, and from that time to the present there has been unbroken friendship between the English and the Hovas, except for a short time during the reign of the Christian-persecuting queen, Ranavàlona I.

Radàma was ambitious, overrunning a great part of the island with his annual forays, and depopulating vast tracts of country.

At his death he was succeeded by one of his wives, Ranavàlona I., a woman who was as ambitious and bloodthirsty as her husband, and who killed all rivals for her husband's crown. Her reign was marked by war with England and France, and by the bitter persecution of the native Christians. After a reign of some twenty-five years she was succeeded by her young son, Radàma II., who, however, reigned only six months, being assassinated by some of his nobles, because he was bent on carrying out the so-called "Lambert Treaty."[1] After his death the successful conspirators put on the Hova throne one of Radàma's wives, under the name of Rasohèrina, at the same time giving to the office of "Prime Minister" its present almost regal power, as the means whereby the Hova nobles might prevent their sovereign from again becoming really an absolute monarch. The reign of Rasohèrina was marked by the increase of European influence and civilisation among the Hovas, and the slow but sure growth of the Christian Church. After reigning about ten years she was succeeded by a cousin, the present queen, Ranavàlona II., whose reign has already lasted nearly twelve years. The present reign has been marked by the following events:—(1) the adoption of Christianity as the state religion of the Hovas, with the consequent destruction by fire of all their idols; (2) the rapid progress of education, both religious and secular, and the building of numerous places of worship and schools; (3) the formation of a literature in their own tongue for the natives, including a *revision of the Bible;* (4) the duty of taking care of its sick and poor is being recognised by the Hova state; (5) the reorganisation of the Hova army on a European model; (6) the building of a better class of dwelling-houses, and the adoption of the European dress instead of the native *un*dress.

II.—*On the Malagasy Language.*

The language spoken by the various tribes which inhabit Madagascar is essentially a *spoken* language, no symbols or pictures of the nature of writing having been found; and such it remained until the early part of the present century, when the English missionaries reduced it to its present alphabetic form. The characters then chosen were those of our own English alphabet; consequently we have no strange-looking characters to master when beginning the study of the Malagasy

[1] This was a *secret* agreement made by Radàma while his mother was still reigning, whereby, after her death, he would allow a company of French merchants, headed by a M. Lambert, to cultivate or otherwise use land in any part of Madagascar, on terms which virtually constituted a gift of the whole island to the French.

language, while, on the other hand, a Malagasy finds only familiar characters when he looks into an English or a French book.

The vowel and consonantal sounds found in this language are the following:—

The vowel sounds are four:—

a pronounced as *a* in psalm
e „ *a* „ date
i „ *ea* „ neat
o { „ *oo* „ too
{ „ *o* „ oh!

o has this second sound only when used as the sign of a vocative case or in introduced words. *y* represents, at the end of words, the same sound which *i* represents at the beginning or in the middle of words; but, in recent editions of the New Testament, *y* is also used to represent the Greek *upsīlon* in words taken from the Greek.

The simple consonantal sounds are sixteen:—

b pronounced as *b* in bid
d „ *d* „ dock
f „ *f* „ fat
g „ *g* „ gate
h „ *h* „ hand
j „ *dz* „ adze
k „ *k* „ kite
l „ *l* „ let
m „ *m* „ man
n { „ *n* „ not
{ „ *ng* „ sing (but never *thus* pronounced among the Hovas).
p „ *p* „ pat
r „ *r* „ true
s „ *s* „ sin
t „ *t* „ tan
v „ *v* „ vine
z „ *z* „ zeal

There only two true diphthongs:—

ai, ay, ei, or *ey* pronounced as *ai* in aye, or eye.
ao .. .. „ *ou* „ proud.

In the combinations *ai* and *ao,* each vowel sometimes keeps its own sound; and there are also the following combinations of vowels, having their sounds kept more or less distinct:—*eo, io, ia, oa, oi* (or *oy*), *oe, aoe,* and *oai.*

In pronunciation, vowels are usually sounded distinctly, rarely elided; and another *i* is sounded (but not written or printed) after *g*, *h*, *k*, *ng*, or *nk*, whenever *i* (or *y*) precedes these consonants.

Of consonantal combinations only the following occur in pure Malagasy words:—

dr, *dz* (i.e., *j*), *tr*, *ts*, *mb*, *mp*, *nd*, *ndr*, *nj*, *ng*, *nk*, *nt*, *ntr*, *nts*.

Consequently the following euphonic changes among consonants are required, in certain cases:—

f is replaced by *p*
h „ *k* or *g*
l „ *b*
v „ *d*
r becomes *dr*, being strengthened by *d*
s „ *ts*, „ „ *t*
z „ *j* (*dz*) „ „ *d*

The following interjections are in common use:—

Expressive of surprise:—*endrày*, *endrè*, *adrè*, *ôdrè*, *hày*, *hànky* =oh! ah!
„ denial:—*ìsy*, *aìsy* (or *èisy*), *àoè*, *sànatrìa* (*sàna trìa*=far be it!)
„ desire:—*anìe*, *ènga kà*, *èndra*, *ànga*=oh that..!
„ calling:—*è* (=eh!), *ô* (=oh!), *rày* (or *rèy*).
„ sorrow:—*indrìsy*=alas!
„ regret:—*indày*, *injày*=would that . . . not . . .!

In the Malagasy language the meaning of words and sentences depends little upon the tone, but very greatly upon accent and on the relative position of words in a sentence, a special discriminative and emphatic particle (*nò*) being also used. For instance, the Malagasy words for *road* and *law* are spelt alike, the accent being the only means of difference; thus: *làlana*, a road; *lalàna*, a law. Again, using the discriminative particle:—*izày manào nỳ màrina nò manàtona nỳ mazàva*, Who do the right approach the light (i.e., *only those* who act rightly).

With regard to the position of words in a sentence as affecting their relative meaning, there are these six rules of syntax:—

(1) The predicate, in a simple sentence, is usually placed at the beginning.
(2) The object of an active verb follows it immediately, unless an adverb, closely connected with the verb intervenes.
(3) With a passive verb, the adverb, agent, and any closely

connected words follow the verb, the object being placed last in the sentence.

(4) A qualifying adjective follows its noun (as, *tràno tsàra*, a *good* house); unless another noun, closely connected with the first, intervenes.

(5) A possessive case follows its governing noun, unless a closely connected adjective intervenes.

(6) The agent of a passive or a relative verb is always placed immediately after its verb, whether such verb be simple or compound.

Any sentence becomes interrogative by the insertion of one or both of the interrogative particles *mòa, và;* the former being used at or near the beginning of a sentence, the latter at or near the end. Thus, *mòa tsàra ìzy?* or, *tsàra và ìzy?* Is it good?

Of words which are direct imitations of noises, cries of animals, &c., we find several in the Malagasy language; but the percentage of such words, although apparently small, cannot be stated with any accuracy, because the total number of words in any dialect is not yet known.

Examples:—*àko*, echo.
ambòa, dog (" *bow-wow*"). } Nouns.
bìtsibìtsika, whispering.
bìzizìoka, buzzing.
mivòvovòvo, to bark.
mifòfofòfo, to puff-puff.
mivàtravàtra, to patter (as falling rain-drops). } Verbs.
mandòndòna, to knock continually.
mimònjomonjo, to murmur, to grumble.

The grammatical structure of the Malagasy language, considered as a whole, is very regular. A large percentage of the words in it are traceable to *roots*, which are usually verbs (active or passive), adjectives, or nouns; and the numerous derivatives from these roots are also formed in a very regular manner.

The roots are divisible into two classes:—

Primary roots, consisting of one, two, or three syllables (if of three the third always ends in *na, ka,* or *tra*).

Secondary roots, consisting of a primary root coupled with a monosyllabic prefix; twenty-six different prefixes being so used.

A root of either class may be *reduplicated*, in order to express the repetition, the diminution, or (rarely) the augmentation, of the idea conveyed by the root in its single form; but in such cases it is only the primary root which is reduplicated, the pre-

fix never suffering alteration. Diminution or augmentation of the idea conveyed by any word, other than a root, is obtained by the reduplication of the root part of that word, there being no special diminutive or augmentative terminations in Malagasy, and mere changes of tone not altering the meaning.

Particles such as prepositions, pronouns, adverbs, &c., generally stand separately, not being combined with any words, except in the comparatively few cases when they are made into verbs by putting an active prefix before them.

In making words from roots both prefixes and suffixes are used; and changes may be made in the vowels or the consonants, according to certain rules too numerous to be mentioned here.

Thus, from root *àsa*, we get

man-àsa, by using a prefix.
asà-ina, by using an affix.
àn-asà-na, by using both prefix and affix.

Compound words are very common. They are formed by throwing away the last syllable of the former of two words, and then making certain euphonic changes in the consonants or the vowels of the syllables thus brought together. By the mutilation resulting from this contraction, the sense is often made more obscure.

The gender of anything is indicated only by affixing the words *làhy* (male) and *vàvy* (female).

Thus: *akòho*, fowl.
akòho-làhy, male fowl (*i.e.*, cock).
akòho-vàvy, female fowl (*i.e.*, hen).

But there are no terms to show the distinction between animate and inanimate, or to point out the number or the case of either nouns or adjectives.

The numerals, although counted by tens, and usually reckoned on the hand, nevertheless show no traces of derivation from reckoning by fingers and toes. I believe that no special order is followed in counting on the fingers, nor are the Malagasy in the habit of using any other aids to counting. The numbers run from one to a million, although the higher numbers above a thousand are seldom used. *Àlina* (ten thousand), when reduplicated, as *àlinàlina*, means "innumerable; and the word for "a million," *tàpitrìsa*, which literally means "*ended* (are) *the numbers*," shows that any quantity above a million is inconceivable to the mind of a Malagasy. None of the lower numerals have any other meaning than that of the numbers which they signify; and all the numerals seem to have been derived from one source. Numeration goes on by tens up to 90 (= "9 tens"), after which

we find special names for the higher numerals. While for the intermediate numbers (as 11, 12, 21, &c.), and for compound numbers, the Malagasy use a word (*àmby* = addition), corresponding to our sign +, the lowest numbers (contrary to *our* rule) being placed first; thus, 111 is *iràika àmby nỳ fòlo àmby zàto* (literally, "1 + the 10 + 100").

Verbs have only two moods, the *indicative* and the *imperative;* of these two moods the imperative serves also for subjunctive and optative, while the indicative serves for every mood except these three. Each mood has the three simple tenses, present, past, and future; *n-*, or *no-*, being the usual sign of the past tense, and *h-*, or *ho-*, of the future, but no changes are made for gender, number, or person. There are also three voices—active, passive, and relative.

An active verb may be simply a root (either primary or secondary), or a root with some prefix. A passive verb may also be a root of either kind, a root with a prefix *or* a suffix, a root with both prefix *and* suffix, or a root with a prefix having some letters transposed. The latter form is also called a "*transposed passive,*" having the infix *mo-* or *ni,* with the infixed letters transposed. A relative verb is a combination of a root with active and passive particles, retaining part of the active prefix, together with the passive suffix, and showing that some relationship exists between the subject and the object.

The chief peculiarity among personal and possessive pronouns in Malagasy consists in the presence of two forms to express *we, us, ours,* the one including both the speaker and the person spoken to, the other excluding the latter. Contracted or suffixed forms of all these pronouns are also much used; and here also the same distinction with regard to *we,* &c., occurs.

There is only one relative pronoun, which is indeclinable, and is used for any case or gender.

The demonstrative pronouns have separate forms for describing things seen or near, as opposed to things unseen, more distant, or implied in the speaker's mind.

Conjunctions are rather numerous, but most of them have several meanings.

True prepositions are scanty, but their place is supplied chiefly by a large number of prepositional phrases, or compound prepositions, which are formed from nouns by prefixing *a-*, *am-*, *an-*, or *i-*.

Adverbs, especially those of place, are very plentiful. They also have tenses, *t-* being the sign of the past tense of an adverb, as *ho* of its future; and some of them can be made into verbs by putting an active prefix before them.

With regard to the family of languages to which the Malagasy

belongs, it is clearly of Malay origin. The affinity of the Malagasy language to those which form the Malayo-Polynesian group has been well examined by the Rev. W. E. Cousins, in a paper read before the Philological Society on February 15th, 1878; but it is still a puzzle to us how Madagascar (contrary to the usual rule) got its inhabitants from the neighbouring continent of Africa, but its language from the far distant Malayan peninsula.

One of the most reasonable theories hitherto propounded for the solution of this problem is that of Dr. Hildebrand, a German naturalist, who recently died in Madagascar, after having spent five years in Africa. He thought that (putting aside the question of still earlier inhabitants of Madagascar) the Hovas (a Malay race) had first settled in the island, but were overpowered by marauders from Africa, who killed off most of the Hova men, but took the Hova women for wives; hence the resulting children learned more of the language of their mothers than that of their fathers, especially as they associated most with their mothers.

But the chief objection to this theory is the fact that the native tribes of East Africa are *not* fond of venturing on the sea, much less prone to make such long voyages as that across the Mozambique Channel, even were such a voyage to be made where the Comoro Islands would allow it to be divided into shorter stages. We know that not only the Arabs, but also European pirates from various nations, had much intercourse with the Malagasy; but we have no data (and, perhaps, never shall have any) for calculating the effect of these upon the native population and their language. Were the Hovas once far more numerous than they are now, and did they become so few in number because great numbers of them were killed in the frequent wars or exported from the island as slaves? Or, on the contrary, were the Hovas always comparatively few in number, while the African element of the population has been increased, through the agency of the slave-dealers, by a steady importation of African natives into Madagascar? Or have both of these causes helped to determine the present state of population and language in Madagascar? These are questions which cannot be satisfactorily answered as yet.

With regard to the people who inhabited Madagascar *before* the Hovas, we have no real information. The Hovas themselves assert that they expelled (at least from the province of Imèrina) a tribe called the *Vazìmba*, and also declare that the remnant of this people still exists on the coast in the south-east of Madagascar, their former name of *Vazìmba* having been altered to *Vèzo*. Now as both these words, *Vazìmba* and *Vèzo*, come

from the same root as the word *vèzivèzy*, which means "a wandering about," were these Vazìmba a nomadic and pastoral race, comparatively unwarlike, and so easily expelled by the Hova warriors? The nature of the central provinces of Madagascar, whose wide, undulating grassy plains are well adapted for pasturage, makes this probable, besides the etymology of the word.

In travelling through the central parts of Madagascar we frequently meet with tombs, which are little more than square mounds of earth, but always overshadowed by one or more Fàno-trees,[1] and are regarded by the Hovas with a superstitious awe. These mounds they call "*the Vazìmba's graves*," and the ghost of the occupant is believed to be ever ready to punish any injury done to his sleeping-place, or to the Fàno-tree overshadowing it. If several of these ancient graves were opened and examined, no doubt we should get some clue as to who these Vazìmba were, and perhaps also might find out who preceded the Hovas as inhabitants of Madagascar.

A strange coincidence may here be noticed in connection with those names, *Vèzo* and *Vazìmba*.

1. As most of you know, there are (or have been) *other* nations whose names seem to imply that they are nomadic or wandering tribes, or that they had travelled from a distance to their final place of settlement, such as the well-known *Vandals* and the *Wenns* (or *Venns*), traces of the former being still found in Central Europe.

2. In the Greek, Latin, German, and English languages we find what seems to be a similar root, *ba* or *va*; from which, in each of these four languages, we get derived verbs expressing some form of motion.

Ex.: Greek—*βα*, root of the verb *βαινω*, to go.
Latin—*vādo*, to wander.
German—*wandeln*, to wander.
English—wade, wander.

This coincidence suggests several questions.

How did the Malagasy, a member of the Malayo-Polynesian group of languages, get this root expressing motion, and so closely resembling, both in sound and in sense, a similar root found in Indo-Germanic languages?

Shall we, at some future date, find a "missing link," lost during the course of centuries, connecting the African-Malagasy (or at least these *Vèzo*) with the *Vandals?*

Are any, or all, of the African-Malagasy tribes the descendants of nomadic tribes or nations who formerly occupied the northern

[1] Fàno, a species of *Mimosa*.

parts of Africa, and who gradually worked their way southwards leaving traces of their language or tribal name?

Briefly stated, the influence of foreigners upon the Malagasy language is as follows:—

That of the *Arabs* is seen in the names given to the days of the week, the *Hòva* names of the months, and in many of the terms connected with dress, bed, money (which was used in Madagascar *before* Europeans arrived), music, and many other things.

That of the *English and French* is seen in many abstract, scientific, and architectural terms, and in the names of modern weapons. Above all, the people have gained much from the *translation of the Bible*, and from the reduction of their language to a written form; for both of which advantages they are indebted chiefly to the English missionaries.

Another interesting link, connecting the Malagasy language with the South African tongues, is found in the verb *mamèla* (from root *vèla*), which in the *Sesùto* language, as well as in the Malagasy, means "*to leave behind, to leave alone.*"

In conclusion, the Malagasy language is essentially one throughout Madagascar, the local differences found among the various tribes no more constituting distinct languages than do the provincialisms of the various counties in England affect the unity of the language. The Malagasy language is soft, musical, phonetic (a syllable usually consisting of one vowel with one consonant), and not difficult for a European to acquire, the two chief stumbling-blocks to a European being the uses of the particle *nò*, and of the relative verb; but when once these two things have been mastered, no voice is so convenient or so commonly used as the relative voice. Contrasted with South African dialects, one feature of the Malagasy language is the absence of "clicks," and also of any special prefix to show whether a country, a tribe, a language, or an individual—and if individuals, their number or sex—is mentioned.

Discussion.

Mr. Keane remarked that few questions were more interesting to the anthropologist than the first peopling of Madagascar, and the affinities of its present inhabitants. In the present state of our knowledge it might seem venturesome to hazard any definite theories. But on a review of the whole situation, the most probable view seemed to be that the island was very sparsely inhabited at the time of the first Malay immigration. The absence of the elephant and other large African fauna, besides many other considerations, showed that this region belonged not so much to Africa as to a now banished continent or archipelago in the Indian Ocean,

of which Mauritius, Réunion, the Seychelles, and some other islets may be remnants, and to which some naturalists had given the name of Lemuria. The smaller groups were uninhabited when first discovered by Europeans, and it might be presumed that this hypothetic Oceanic region had on the whole already subsided before the appearance of men on the earth. But many of its islands which have since disappeared may have continued above water till comparatively later times, thus affording more numerous stepping-stones between Malaysia and Madagascar than now exist. On their arrival the Malay intruders would soon extirpate or absorb the few aborigines, and thus from the remotest time that linguistic uniformity would have been established which has ever since continued. But, except amongst the Hovas of the central plateau, possibly representing a still more recent Malay migration, the race became greatly modified by the introduction of negro elements from the neighbouring coast of Africa. These elements arriving at intervals, and mostly no doubt imported as slaves, would in course of time inevitably produce a change of type, such as is now found amongst the Sàkalàvas of the west and Bètsimisàrakas of the east coast. But the language remained practically unaffected by them, because of their inferior social position, and because they became distributed amongst the dominant race as fast as they arrived in small driblets from the mainland. The negro slaves imported under similar conditions into Egypt from time immemorial, later on into Barbary, and recently into the New World, have nowhere been able to preserve their African mother-tongues. In North Africa they rapidly learn Arabic; in America they speak passable English, Spanish or Portuguese, or at any rate jargons of those languages, in which the percentage of African elements is extremely small. In Madagascar they have everywhere changed their harsh guttural dialects, with their clicks and difficult illustrative mechanism, for the relatively simple, harmonious, and easily acquired Malagasy. And thus the great uniformity of speech in this large island ceases to be such a surprising phenomenon as at first sight it appears to be. We have thus no doubt a persistence of language through a great lapse of time, with a considerable modification of the physical type. But the generally accepted principle that physical are more durable than linguistic types is true only where both are unaffected by extraneous influences. Where we have actual contact a different law prevails. The two races become modified by intermixture, while the speech of one or other simply dies out, leaving behind it little trace of its former existence. Thus the Turki peoples have been mostly assimilated to the Caucasic type by contact with the Western nations; but wherever they have held their ground the Turki dialects have preserved their organic structure. So, in Madagascar, the Malay stock has been to some extent assimilated to the negro type; but the Malay dialect originally introduced has not been perceptibly affected by the African tongue, either originally current in the island or subsequently introduced by immigrants from the dark continent. The possible aboriginal speech has simply disappeared;

the Bantù or other African tongues imported later on have failed to gain a footing in the country, or even seriously to affect the Malagasy still everywhere spoken with surprising uniformity throughout the whole island.

Dr. Gustav Oppert said that Madagascar had had from time immemorial an influx of foreign immigrants, the neighbourhood of Africa providing it with a considerable sprinkling of African blood. Later on, Arabs, Chinese, and Europeans settled in the island; but all the colonists, however much they have influenced the ethnological features of Madagascar, left no permanent impression on the vast majority of the original population, which is Polynesian in character.

As in most islands of the Eastern Archipelago, we find also in Madagascar two apparently distinct races: one is short, olive-coloured, with long straight hair; and the other is tall, dark-brownish-coloured, with curly hair. The first has been identified with the Malays, and the latter with the negroes of Africa; the chief representatives of the former are the Hòvas, and of the latter the Sàkalàvas on the west coast. These differences are easily distinguishable, and are important enough to be specially commented upon, but they ought never to be regarded as decisive, for similar deviations occur occasionally in races of indisputable purity, as, *e.g.*, amongst the inhabitants of Carinthia and Styria, amongst the Sclavonians and others. However different the two races in Madagascar appear to be, yet the language spoken throughout the island may be considered as one. In this respect the exhaustive dictionary compiled by Dr. Parker from fourteen different dialects is of great importance.

The language of Madagascar contains, no doubt, a great number of pure Malay words. It is by no means easy to satisfactorily explain the cause of it, for it may either be owing to the close relations which existed, even in prehistoric times, between the Malays and Polynesians, or by Malay immigration into Madagascar, or perhaps by both circumstances contributing to it.

According to the classification of languages which the speaker propounded a few years ago the Malagasy language belongs to the concrete group. It has no abstract terms of relationship; it does not possess a term for the abstract pronoun *we;* it has consequently no gender, does not express number, and exhibits other characteristics of its tendency towards concreteness. So far it coincides with the language of the Malays and of most of the negroes of Africa. However, Malagasy exhibits a characteristic which distinguishes it from the languages spoken by the above-mentioned nations. The latter belong to the homologous group, where males and females speak to and of each other in identical terms; for though they have, *e.g.*, no special word for brother or sister, and can only express the meaning of elder and younger brother or sister, yet both males and females use the same word for these four distinctions. In the heterologous languages males and females use different terms; so does the Malagasy idiom, in common with the Polynesian and many Australian languages. Thus *ràhalàhy* is a brother's brother,

ànadàhy a sister's brother, *ràhavàvy* a sister's sister, and *ànabàvy* a brother's sister; *zàna-dràhalàhy* is the child of a man's brother, *zànak-àina* or *zànak-ànabàvy* the child of a man's sister, *zàna-dràhavàvy* the child of a woman's sister, and *zànak-ànadàhy* the child of a woman's brother.

The speaker did not believe that these four terms, *ràhalàhy*, *ànadàhy*, *ràhavàvy*, and *ànabàvy*, represented the only terms the Malagasy language possesses for expressing the various modifications of brotherhood and sisterhood, and in the dialect spoken in north-eastern Madagascar there occur really two terms respectively for *ràhalàhy* and *ràhavàry*, as *ràkilàhy* and *ràokilàhy* for the former, and *rókivàvy* and *raókivàvy* for the latter. He presumed the first two applied to the elder and younger brother of a man, and the latter to the elder and younger sister of a woman. It is even probable that there existed originally two special terms for *ànadàhy* and *ànabàvy*, which would complete the list, so that we should have eight separate expressions, as are found in most Polynesian languages.

However this might be, these terms at once give us conclusive evidence for considering the Malagasy language closely connected with the Polynesian idiom. As this subject has been treated at length in the essay on the "Classification of Languages" there is no necessity of further enlarging on it. It is, nevertheless, a triumph to comparative philology that it is able to settle such a point of importance as the original source of the Malagasy language, and therefore also the origin of the Malagasy people.

Mr. Hyde Clarke wished to explain that the principle which Professor Oppert had applied in his system of classification of languages, and of which he had given an example for Malagasy, was an exemplification of a well-known fact recognisable in many languages, and dependent on women using a language separate from men. This, in the case of Malagasy, Professor Oppert had worked out from the old French vocabularies, which he might observe had been published in that most valuable work conducted by the missionaries in Madagascar called the "Antanànarivo Magazine." Mr. Oppert's facts had really been confirmed by the high authority of Mr. Sibree and Mr. Pickersgill, who had given the modern form. As to himself he must observe that he dissented altogether from the theories put forward in explanation of the early population and language of Madagascar, and looked for a solution in another direction.

The Rev. J. Sibree, Mr. Bouverie-Pusey, M. Bertin, the Rev. W. C. Pickersgill, and the President also joined in the discussion.

DECEMBER 12TH, 1882.

M. J. WALHOUSE, Esq., F.R.A.S., *in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From the AUTHOR.—List of Birds observed at Fort Berthold, D.T., during the month of September, 1881. By W. J. Hoffman, M.D.

From the ROYAL SOCIETY OF NEW SOUTH WALES.—New South Wales in 1881. By Thomas Richards, Esq.

From the SOCIETY.—Journal and Proceedings of the Royal Society of New South Wales, 1881.

—— Journal of the Society of Arts. Nos. 1567, 1568.

—— Bulletin de la Société Imperiale des Naturalistes de Moscou. No 1, 1882.

——Proceedings of the Royal Geographical Society. December, 1882.

From the EDITOR.—Revue Scientifique. Tom. XXX. Nos. 23, 24.

—— "Nature." Nos. 683, 684.

—— Bullettino di Paletnologia Italiana. Nos. 7-9.

Mr. A. L. LEWIS exhibited some worked flints from Cape Blanc Nez, near Calais, a site where the manufacture of implements was largely carried on, and concerning which full particulars were placed before the International Congress of Prehistoric Anthropology and Archæology at Brussels, in 1872, by M. E. Lejeune, and are also reported in the "Materiaux pour l'Histoire Primitive et Naturelle de l'Homme," 1872, p. 504, *et seq.*

The following paper was read, in the absence of the author, by the Assistant-Secretary:—

NOTES *on the* AUSTRALIAN CLASS SYSTEMS.

By A. W. HOWITT, Esq., F.G.S.

[WITH PLATE XV.]

I HAVE been led, by a review of the evidence which I have collected as to the customs and social organisation of the Australian aborigines, to the conclusion that the early state of their society was that of an undivided commune. To repeat this evidence would be too long, nor is it necessary to do so for

my present purpose. I start, in now considering the general subject of the class divisions of the Australian communities, from the assumption that there was once an undivided commune. It is, however, necessary to somewhat guard this expression. I do not desire to be understood as maintaining that it implies necessarily the existence of complete communism between the sexes. Assuming that the former physical conditions of the Australian continent were much as they are now, complete communism always existing would, I think, be an impossibility. The character of the country, the necessity of hunting for food, and of removing from one spot to another in search of game and of vegetable food, would necessarily cause any undivided commune, when it assumed dimensions more than that of a few members, to break up, under the necessities of existence, into two or more communes of similar constitution to itself. In addition to this it has become evident to me, after a long acquaintance with the Australian savage, that in the past, as now, individual likes and dislikes must have existed; so that, although there was the admitted common right between certain groups of the commune, in practice these rights would either not be exercised by reason of various causes, or would remain in abeyance, so far as the separated but allied undivided communes were concerned, until on great ceremonial occasions, or where certain periodical gatherings for food purposes reunited temporarily all the segments of the original community. In short, so far as the evidence goes at present, I am inclined to regard the probable condition of the undivided commune as being well represented now by what occurs when on certain occasions the modified divided communes reunite. Each divided commune carries in itself the strongest evidence of this early condition.

In the Australian class systems by which the community, *i.e.*, the tribe in its social aspect, is divided, the true divided communes are represented by the two primary classes, each of which has a group of totem names. The divided commune with its totems may be thus formally represented.

No. 1.

Two classes.	Totem names.
A.	1, 2, 3, &c.
B.	i, ii, iii, &c.

In all cases the totem names are those of things animate or inanimate, as are in many cases also the class names; or it may be even that all the class names have had a meaning, as words signifying animals, &c., which in the change of language has become lost.

The two intermarrying classes, A and B, pre-suppose an original whole—*i.e.*, an undivided commune. In the two classes we have that separation and assumption of animal names which the Dieri legend[1] attributes to an intentional act done by their ancestors at the instance of the "Mura Mura," which in the plural form means the deceased ancestors themselves.[2] This Dieri legend has a remarkable counterpart, which I have found in that Kūlin tribe which formerly occupied the country surrounding Melbourne. This states that the "old law" which directed Būnjil (Eaglehawk) to marry Waa (Crow) only, and *vice versâ*, was given by Būnjil himself to the wizards of the tribe, who in their turn communicated it to the people.

The two primary classes are, over a large part of South-Eastern Australia, distinguished by the names Eaglehawk and Crow, in their dialectic forms.

The totems form two groups, and are the names of animals, birds, fish, reptiles, vegetables, or more rarely other natural objects. The fundamental rule appears to be that each group of totem names is, in fact, a several and collective representation of its primary; therefore, as group A marries with group B, and *vice versâ*, so may, as a general rule, any one of the group of totems marry with any other of the complementary group of totems. In certain localities, however, restrictions have arisen in so far that, taking table No. 1 as an example, an individual, say being A 1, would intermarry with B i only. Theoretically the marriage is of group to group, but in practice it more or less approaches that of individual to individual. In this aspect of the classes it is necessary to point out that all of the contemporary generation of A 1 would be regarded as (tribal) brothers and sisters, and so on through the other relations, and this ancient view still obtains even under changed conditions of the classes.

The next change which appears to have taken place in the class system is the subdivision of the primary classes into four sub-classes, which may be thus formulated:—

[1] See "Kamilaroi and Kurnai," p. 25.

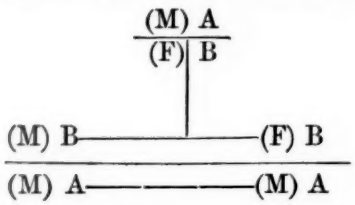
[2] Communicated by the Rev. H. Vogelsang, of the Lutheran Mission in the Dieri country.

No. 2.

Two classes.	Four sub-classes.	Totem names.
A .. {	*a*..	1, 2, 3, &c.
	a..	
B .. {	*b*..	i, ii, iii, &c.
	β..	

This is the form of the well-known class system of the Kamilaroi tribes; but it is not confined to them,[1] and the extent of this form, so far as is known to me at present, is shown in Plate XV.

It is reasonable to believe that the subdivision of the two primary classes into four subdivisions has not been a matter of chance, but of intention. The effect, together with the interchange of names in each generation with the sister class of the mother, is to remove the woman of the second generation from the influence of the law governing the primary classes. That is, the woman B in the second generation is forbidden to the man A, her father. Were this not so, the law "A (male) marries B (female)" would permit A to take his own daughter to wife. Under the law which arises on the division of a community into two such exogamous intermarrying communes as are shown in Form No. 1, the marriage of brother and sister (own or tribal) is forbidden only. The following diagram shows the generations, with their marriages, descent being counted through the mother.



There is nothing in the law to prevent intermarriage between father and daughter. The subdivision of the classes as shown in Form No. 2 produces, however, a great change, and extends the range of the prohibition of marriage.

[1] To illustrate these two class systems I now give, as typical of the Form No. 1, the classes and totems of the Dieri tribe, for which I am indebted to the

I cannot see any reason to doubt that the first division of Australian communities into two exogamous intermarrying communes was an intentional act arising from within the commune prior to its division. The evidence which I have before me, drawn from the existing customs and beliefs of the aborigines, not only leads me to that conclusion, but also to the further conclusion that the movement itself probably arose within the

painstaking inquiries of the Rev. H. Vogelsang, of the Lutheran Mission to that tribe.

Two classes.	Totem names.
Matteri	*Purai* .. .. .. Caterpillar. *Tikanara* .. .. Native cat. *Malura* .. .. Cormorant. *Karaura* .. .. Eaglehawk. *Markara* .. .. Mullet. *Warugatí* .. .. Emu. *Knilala* .. .. Dog. *Palyara* .. .. Rat. And eight others.
Kararu	*Chukuro* .. .. Kangaroo. *Woma* .. .. .. Carpet-snake. *Tidnamara* .. .. Frog. *Kaualka* .. .. Crow. *Buralko* .. .. Native companion. *Kanunka* .. .. Bush wallaby. *Milkiwaru* .. .. Fish hawk. *Kokula*.. .. .. Small rat. And eight others.

As illustrative of Form No. 2, I give the Kamilaroi classes and totems in their complete form, which have been carefully worked out for me by Mr. C. E. Doyle, of Kunopia, near Moree, New South Wales.

Two classes.	Four sub-classes.	Totem names.
Dilbi	Muri	Kangaroo, Opossum, Bandicoot, Padimelon, Iguana, Black Duck, Eaglehawk, Scrub Turkey, Yellowfish, Honey-fish, Bream.
	Kubi	
Kŭpathin	Ipai	Emu, Carpet-Snake, Black Snake, Red Kangaroo, Honey, Walleroo, Frog, Codfish.
	Kumbo	

In both these cases descent is through the mother

council of elders, in which the tribal wizard, the professed communicant with ancestral spirits, holds no mean place. The change, whenever it was effected, must, I think, have been announced as having been directed by the spirits of the deceased ancestors (*e.g.*, Mura Mura of the Dieri), or by the Headman of Spiritland himself, (*e.g.*, Bŭnjil of the Kŭlin, or Daramŭlŭn of the Mŭrring).[1]

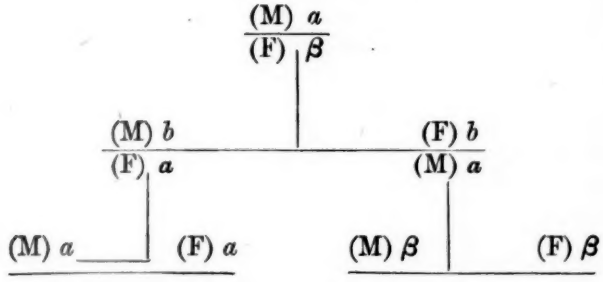
I regard the movement as having been reformatory in intention, and that the object sought to be gained was the prohibition of brother and sister marriage in the community. Such was, I think, the intention and effect of the division shown in Form No 1, as A and B.

The subdivisions of the two primary classes now claim attention, and the four sub-classes may now be thus placed in relation to their primaries:—

$$a + \alpha = \text{A.}$$
$$b + \beta = \text{B.}$$

Each half of an original class has marital rights over the women of one particular half of the other class, whose children do not, however, take the class name of their mother, but of the sister class, *i.e.*, of the subdivision which is complementary to hers. The old law, "A and B mutually intermarry and the child follows the mother's class," still underlies the new arrangements.

The following diagram, showing three successive generations, will bring out the features of the new rules:—



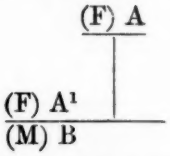
We can see by this diagram that whereas under the primary divisions A and B a man's daughter was of the class from which he might lawfully take a wife—under the new law of the subdivisions his female descendant of the class name over which he would have marital claims would only appear in the third generation as his

[1] The Kŭlin lived in Victoria, the Mŭrring on the Maneroo Table-land, New South Wales.

daughter's daughter, and therefore practically beyond his reach. It would be the same as to the mother: it would be her son's son who would belong to the sub-class from which her husband might be taken. It is necessary to keep in view the fact that these aborigines, even while counting "descent"—that is, counting the class names—through the mother, never for a moment feel any doubt, according to my experience, that the children originate solely from the male parent, and only owe their infantine nurture to their mother.

I cannot, therefore, regard the subdivision of the classes in any other light than as a rule framed to enforce separation between those who had heretofore been mutually eligible under the class rules, but who being of the same blood could not intermarry without committing that which among these aborigines is now universally regarded as a deep pollution. I think that the subdivision of the classes was intended to render impossible those unions which were perhaps even then forbidden by public opinion; for while these subdivisions have only a local range, the social prohibition which forbids the intermarriage of parents and children, or brother and sisters, is universal throughout Australia. That this social prohibition was directed in early times to such intermarriages, or cohabitations, may be perhaps inferred from this, that in some tribes, such as the Kunandaburi, where this prohibition obtains without there being a division into sub-classes, the prohibition itself is disregarded during the ceremonies attending the consummation of a woman's marriage.[1] Thus we have an instance where the general rule does not prevent, on ceremonial occasions, the temporary return to a marked form of communism, and it is not without significance that this occurs in a tribe which, of all others known to me, most nearly approaches in present usage to the theoretical condition of the divided commune.

This may be the place to speak of another prohibition which is universal all over Australia, namely, that of even the slightest intercourse between a woman and her daughter's husband. A diagram will again be convenient in letting some light in upon this custom. I take first the case of the more ancient system having only two classes with uterine descent:—



[1] According to the observations made by Mr. J. W. O'Donnell, of Cooper's Creek.

In this case the man B marries the woman A. It is clear that there could not be any prohibition inherent in the class rules to his marrying the woman A, her mother, or to taking both, for both are of the class from which he might take a wife, and he might lawfully take one or the other if they were otherwise eligible. No arrangement of the classes could prohibit the marriage of a man both to the mother and the daughter. It could only be done by a special social ordinance of great stringency. This stringency is shown by the common expression among these aborigines, "A man cannot even look at his wife's mother." They would regard a connection between the two as a pollution in the highest degree. But I doubt whether this prohibition between a woman and her daughter's husband is in fact any stronger than the prohibition of marriage between a woman and her brother, own or tribal. The social prohibition in the former case is no more stringent than the class prohibition in the latter, only that while the inability in a man to marry a woman of the same class name as himself does not appear, either when he is single or married, unless upon inquiry, the prohibition between a man and his wife's mother instantly stands out in bold relief when he obtains a mother-in-law by his marriage. The prohibition as to a wife's mother is, however, not a whit more strong than is that as to a class-sister.

The objection may, however, be taken that there should be a corresponding avoidance between a man and his son's wife, but on reflection it will become quite evident that with the law of uterine descent—under which we must, I think, assume that these prohibitions have come into existence—the son's wife would be, in fact, of the class to which her husband's father belonged, and therefore already utterly prohibited to him by the laws of the classes, and therefore such a case would not require any special social ordinance.[1]

If the division into classes were not a reformatory movement, what was it? But granting that it was a reformatory movement the following series of conclusions may be accepted as a reasonable hypothesis:—

[1] I note that Dr. Tylor, in his presidental address to the Anthropological Institute in 1881, remarks, in speaking of this custom of the avoidance by a man of his wife's mother, that "In Australia, and all over the world, a man avoids his father-in-law." So far as my knowledge of Australian customs extends, I know of no such avoidance by a man of his wife's father. On the contrary, they hold any kind of intercourse as freely as if no connection by marriage existed. In some tribes, as the Kurnai, there may be an obligation upon a man to supply his wife's father with food or presents. Dr. Tylor's statement is, however, so important, and must carry so much weight, that I am now instituting special inquiries, through my correspondents, in order to learn the exact nature of the relations between the persons named throughout Australia.

(1) The primary division into two classes was intended to prevent brother and sister marriage in the commune.
(2) The secondary divisions into sub-classes were intended to prevent the possibility of intermarriage between parents (own and tribal) and children.
(3) The prohibition of the slightest intercourse between a woman and her daughter's husband was a social enactment intended to forbid connections which the class rules were unable to prevent.
(4) All these changes have been due to an international reformatory movement in the community itself.

The foregoing diagrams, Nos. 1 and 2, may be said to show the normal forms in which the Australian class systems occur, so far as my present evidence extends. Besides these, there are, however, a number of abnormal forms which it is necessary to consider, and for this purpose I take individual instances. For convenience I commence with those which approach nearest the Kamilaroi type. The first example belongs to a large tribe, or group of kindred tribes, occupying much country to the south of the Gulf of Carpentaria.[1]

No. 3.

Two classes.	Four sub-classes.	Totem names.
———	*a*	1, 2, 3, &c.
	a	
———	*b*	i, ii, iii, &c.
	β	

I find in this case the following peculiarities. There are no primary classes, but this may merely mean that my informants have not ascertained them. The sub-classes have the Kamilaroi arrangement as to marriage, but the children's names are those of the *brother-class of the father*. The totems, which at the Lower Leichhardt River are the names of fish, are inherited from father to son. We find here, then, the important innovation of agnatic descent in a class system of the Kamilaroi type.

[1] I am indebted for this and other information to the kindness of Mr. Percival E. Walsh, of Iffley, and to Mr. E. Palmer, of the Cloncurry River.

The next example is from the Wonghi tribe of the Lachlan River.[1]

No. 4.

Two classes.	Four sub-classes.	Totem names.
———	*a*..	1, 2, 3, &c.
	a..	
———	*b*..	i, ii, iii, &c.
	β..	

The peculiarity in this tribe is that while the sub-classes are the well-known Ipai, Kumbo, Muri, Kubi of the Kamilaroi, with two groups of totem names, the rules of marriage in the sub-classes are not those of that tribe. In the Wonghi sub-classes *a* and *b* marry *a* and *β*, whereas the rule of the Kamilaroi, their neighbours, is *a* marries with *β*, and *a* with *b*. There are most probably two primary classes, but I am not yet in possession of them.

A third instance I take from the Aldolinga tribe at the Finke River, South Australia.[2]

No. 5.

Two classes.	Four sub-classes.	Totem names.
———	*a*..	———
	a..	
———	*b*..	———
	β..	

[1] I am indebted for this to my valued correspondent, Mr. A. L. P. Cameron, of Mulurulu, New South Wales.

[2] For this and other information I have to thank the Rev. H. Kempe, of the Lutheran Mission.

This is a very abnormal form. It extends, however, over a large area. After much reiterated inquiry I feel that it is not probable that this class system is other than that above formulated. There are no primary classes, nor any totem names of the ordinary kind existing; yet from the analogy between the sub-classes and those of the Kamilaroi type I cannot doubt that they are the subdivisions of two classes that once existed. Neither are there any totem names grouped under the couplets of sub-classes, yet this want is supplied by the sub-classes themselves, which are the names of animals, &c. Finally, we have again the important fact that in this abnormal form of class system descent is in the male line, for the sub-classes exchange the children's names with each brother-class—that is, with the brother-class of the class to which the father belongs.

I now turn to other abnormal forms which are connected with the earlier type (Form No. 1).

The first which I note is that of the Wolgal tribe, which once inhabited the upper waters of the Hume, the Murrumbidjee, and the Tumut rivers. In structure it entirely conforms in type to No. 1, but it has this important difference, that descent is counted through the father.

It is important to note that the primary classes in this tribe are "Eaglehawk" and "Crow." These same classes are found extending far to the westward—some five hundred miles—being the well-known "Mūkwara" and Kilpara classes of the Darling River tribes, but in this latter case counting descent through the mother, although otherwise presenting precisely the same type of structure.[1]

The next example is that of a Kūlin tribe which formerly occupied much of the country surrounding Melbourne.[2]

No. 6.

Two classes.	Totem names.
A	1 only.
B	None.

[1] Mr. Cameron, who resides just about where the class system of the Darling River tribes comes in contact with class systems of the Kamilaroi type, writes as follows:—"Mūkwara = Ipai-Kumbu, and Kilpara = Murri Kubbi, my imformant telling me that when he was among people divided into Mūkwara and Kilpara he was called Mūkwara, and when he was among those divided into Ipai-Kumbu, &c., he was Ipai. His tribe live about the boundary of these two great divisions, and any member of the Wathi-Wathi knows perfectly well what woman of the Kamilaroi organisation he should marry." This is an example of the important evidence which Mr. Cameron is collecting.

[2] From personal inquiries from the last survivors of the tribe.

In this community important changes have taken place. Descent is in the male line only. The totems have all disappeared with the exception of one, which belongs to A. The two primary classes, A and B (Eaglehawk and Crow), divide the whole community into two exogamous intermarrying groups.

The system of another tribe (North-Western Victoria), which also designated its men by the term Kūlin, is very peculiar.[1]

No. 7.

Two classes.	Totem names.
None.	16 totems.

The two primary classes appear here to have become extinct, but I cannot feel quite certain on this point pending complete inquiries. Still, the arrangement of fourteen of the totem names seemingly in one group only favours this belief. The two other totem names have this peculiarity, that one is assigned wholly to the men, and the second wholly to the women; one totem having, therefore, descent through the mother as to girls, and the other descent through the father as to boys. The fourteen other totems seem to have been distributed over the whole tribal territory. An individual of one totem might marry with an individual of any of the other thirteen totems, the children taking the mother's totem name.

With reference to this arrangement of the totems, I may here compare the Narrinyeri tribe of South Australia, concerning which the late Rev. George Taplin has recorded many interesting facts. I subjoin the form of class system of this tribe, based on data kindly collected and verified for me by Mr. Frederick Taplin, Superintendent of the Point Macleay Mission:—

No. 8.

Two classes.	Totem names.
None.	23 totems.

The peculiar features in this case are: the tribe is divided into eighteen local clans, fourteen of which have one totem name

[1] From personal inquiries.

only, three have two totem names each, and one has three totem names. Two clans have one totem name in common. The totem names are exogamous, and descent is in all cases through the father.

I now compare with the systems already given that of the Kŭrnai tribe, which may be thus stated:—

No. 9.

Two classes.	Totem names.
None.	1, all males. 1, all females.

This shows the peculiar feature noted in the Kūlin tribe of North-Western Victoria. Under it all the Kŭrnai men are of one, and all the women are of another totem name—that is, as I have said of the former tribe, the sons inherit the totem name of their fathers, and the daughters that of their mothers.[1] By themselves it might seem difficult to regard these two totem names as connected with the normal class systems of the Australian, but taken together with the other examples which I have given I think it is evident that we have here an instance of almost complete decay in the classes and totems. There is further evidence, which is too lengthy for insertion here, and which in some measure would lead me beyond the scope and intention of these notes. I reserve it for a future communication, merely remarking now that it raises a strong presumption that the Kŭrnai system and that which I have given in Form No. 6 are the survivals of an earlier system of the primitive type which has now become extinct.

These may serve as illustrations of the abnormal forms which the classes and totems of some of the Australian communities assume.

In conclusion, I give an instance which is, so far as my experience goes, *sui generis*. The tribe calling itself Ikŭla (Morning Star), situated at the head of the Great Australian Bight, at the boundary between Western Australia and South

[1] I have now traced the analogues of these Kŭrnai totems from the South Australia boundary-line to far to the eastward beyond Victoria, over a distance of more than 600 miles; I find them accompanying class systems having some uterine and others agnatic descent. My valued correspondent, Mr. Cameron, has identified them in the Wathi-Wathi tribe north of the Murray River.

Australia, has very peculiar marriage arrangements, which I give below.[1] The community is divided into the classes—

Būdera = Root.
Kūra = Native Dog.
Būdū = Digger.
Wenŭng = Wombat.

Male	Marries	Children are
(M) Būdera ..	(F) Kūra .. .. or (F) Wenŭng	(M) Būdera; F. Kūra. (M) and (F) Būdera.
(M) Kūra ..	(F) Būdera .. .. or (F) Būdū	(M) Kūra; (F) Būdera. (M) and (F) Kūra.
(M) Būdū ..	(F) Wenŭng	(M) Būdū; (F) Wenŭng.
(M) Wenŭng ..	F. Būdū	(M) Wenŭng; (F) Būdū.

There are peculiar customs in this tribe, according to my informant, which point to Būdera and Kūra holding a superior position in the community to either Būdū or Wenŭng. Such, for instance, as when a woman is captured from one of the neighbouring "wild tribes." Supposing her to have been captured by a Būdera man she would be passed from the Būderas to the Kūra men, and from them to Būdū and Wenŭng. It is also said that when a Būdera man kills a kangaroo he does not carry it home, but if alone takes precautions against wild dogs and hawks, and sends some of the other men from the camp for it: such game also, when cooked, is divided by a Būdera man. These indications of superiority in the Būdera and Kūra classes are also manifested in the rules of marriage and descent. The male Būdū or Wenŭng is restricted in his choice, and does not transmit his name to his daughters.

And this, I think, justifies the belief that we may have here a case of two communities having amalgamated, but not on equal terms, one having been more powerful than the other. It then becomes easy to see that the peculiar relations of marriage and descent are a consequence of the superior tribe keeping for itself greater privileges, such as certain rights of intermarriage, than it granted to the tribe it admitted to its community,

[1] I am indebted for this interesting information to the labours of Mr. Elphinstone Roe, lately telegraph operator at Eucla.

Using the form which I have adopted for showing the class systems in this paper, that of the Ikŭla tribe may be shown thus:—

No. 10.

A	*a.*
B	*b.*

Here A and B represent the classes Būdera and Kūra, while *a* and *b* represent Būdū and Wenŭng. If we now, acting on the view I have above suggested, separate the whole into its two constituent moieties, we shall have exactly a representation in each of the assumed forms of the divided commune, in which the two divisions are in fact totems. It may be that we have here an instance of a tribe shut up in extreme isolation, which has not so much, perhaps, developed an abnormal form of class system as retained from the past the original form of the community to which all the other types of class system in Australia may be reduced.

The attached map will show that the systems having the more or less perfect Kamilaroi type occupy a large area from the eastern coast inland; that the primitive type of class-system extends far across the southern part of the continent, and northwards into the interior; and also that abnormal forms of system appear to constitute a fringe along the coast. What causes may be assigned to explain these features of distribution I do not now propose to consider, but leave for the future, when a greater mass of evidence shall have accumulated in my hands.

Description of Plate XV.

Map of Australia, showing distribution of the class-systems.

(The figures indicate the several systems referred to in the text, and the dotted lines show the areas over which they are distributed.)

Discussion.

The Chairman called attention to the fact, as not unconnected with the subject of the paper, that rules somewhat similar, and as strict, prevail amongst some of the lowest races in the Indian Peninsula. In the province of Canara, on the Malabar Coast, the Chandalas, or slaves, are divided into fifteen castes, none of which may intermarry. In condition and status these castes, who doubtless represent the primitive races, conquered and enslaved by the Aryan invaders, are much on a level with the Australian aborigines, whom they physically resemble. In marriage customs, however,

SKETCH-MAP OF AUSTRALIA, SHEWING DISTRIBUTION OF CLASS SYSTEMS.

there is this difference, that whereas in an Australian tribe intermarriage is allowed, regulated by the totems of each group, the Indian slave castes are strictly prohibited from intermarrying one with the other. Marriage according to totems is also the rule amongst some of the least civilised North American tribes.

The remarkable system of checks and restrictions regarding intermarriage amongst allied tribes, which had just been described, suggested to the speaker some considerations that have an anthropological bearing. It had long appeared to him that the intellect and manners and morals of so-called savage races are generally held too much in contempt. Now these Australians, who are by many regarded as lowest in the scale, have been able to discern how social and moral evils result from unrestrained communion in marriage, and have devised, and continued to observe, an intricate system of checks, exactly obviating the evil and mischief that would certainly follow all want of restraint. They appear to attribute the system to supernatural direction, but it must have originated amongst themselves, probably in prehistoric times, for Australia and its races are regarded as amongst the oldest on the earth, and most nearly representing the land and peoples of the stone period. Possibly the vanished people of those mysterious periods may have been able to recognise social and moral good and evil, to have devised preventives, and transmitted them to their fast-perishing representatives in these times.

Mr. Lewis said the paper dealt with most important subjects, and would be better appreciated when studied minutely and at leisure in the Journal than it could possibly be on hearing it read. It seemed that while an Englishman was strictly prohibited from marrying his grandmother, an Australian was free to do so if he wished; but perhaps one reason for this difference might be that the average duration of life in prehistoric Australia was so short that there would be no probability of such a marriage ever being contracted.

Dr. Gustav Oppert remarked that he had listened with great interest and attention to the learned paper of Mr. Howitt, and that his remarks, as coming from a gentleman well acquainted, by long residence among those tribes, with their manners and customs, were of great importance, as they supplied material for a scientific inquiry into the principal cause of those strange laws. The tribal distinctions found among the natives of Australia are a most curious phenomenon, but they must be compared with similar observances met with in other countries. Mr. Howitt's paper clearly pointed to the fact that the original division into male and female tribes, which underlies the whole Australian system, was due to the separation, which at one time (*i.e.*, at the commencement of social life) was made between the males and females and the descendants of these males and females. The speaker was inclined to contend that in former times the two sexes lived more separated from each other, that those marriage customs were based on this separation, and that after these customs had become laws those tribal distinctions

were made hereditary. In consequence of this state the males of one group can only intermarry with the females of another, and *vice versâ*. This arrangement does not prevent each group being later on divided into different divisions, and in the course of time the laws of intermarriage becoming more complicated. That there existed at an early period social distinctions between the males and the females of the same community among the inhabitants for Australia, Polynesia, and America, is borne out by the distinction which contemporaneously existed between the speech of the males and females.

JANUARY 9TH, 1883.

A. L. LEWIS, Esq., *in the Chair.*

The Minutes of the last meeting were read and confirmed.

The following presents were announced, and thanks voted to the respective donors:—

FOR THE LIBRARY.

From SIR JOHN LUBBOCK, Bart.—Revue d'Ethnographie. Nos. 1-5.
From the AUTHOR.—The Doctrine of Evolution. By T. W. Leys.
—— Sketch of the Hon. Lewis H. Morgan. By F. W. Putnam.
—— The Claims of Science to Public Recognition and Support By Dr. Guy, F.R.S.
—— The Pedigree of the Devil. By Frederic T. Hall, F.R.A.S.
—— Origin and Significance of the Great Pyramid. By C. Staniland Wake.
From the MADAGASCAR COMMITTEE.—What are "French Claims" on Madagascar?
From the GERMAN ANTHROPOLOGICAL SOCIETY.—Archiv für Anthropologie. September, 1882.
From the BERLIN ANTHROPOLOGICAL SOCIETY.—Zeitschrift für Ethnologie. 1882. Heft 5.
From the ACADEMY.—Zbiór Wiadomości do Antropologii Krajowéj. Wydawany staraniem Komisyi Antropologicznéj Akademii Umiejętności w Krakowie. Tom. VI.
—— Rozprawy i Sprawozdania z Posiedzen wydzialu Matematyczno-Przyrodniczego Akademii Umiejętności. Tom. IX.
—— Pamiętnik Akademii Umiejętności w Krakowie. Wydzial Matematyczno-Przyrodniczy. Tom. VII.
From the ASSOCIATION.—Proceedings of the Geologists' Association. Vol. VII, No. 6.
From the SOCIETY.—Boletim da Sociedade de Geographia de Lisboa. 3ª Serie. No. 5.
—— Bollettino della Società Africana d'Italia. November, 1882.
—— Journal of the Society of Arts. Nos. 1569-72.
—— Proceedings of the Royal Geographical Society. January, 1883.

From the EDITOR.—Correspondenz-Blatt. October, November, December, 1882.
—— "Nature." Nos. 685–88.
—— Revue Scientifique. Nos. 25–27, 1882; No. 1, 1883.
—— Journal of Mental Science. January, 1883; October, 1881; January, April, October, 1882.
—— Revue Politique et Littéraire. No. 26, 1882; No. 1, 1883.
—— Bullettino di Paletnologia Italiana. Nos. 10, 11.

The election of Admiral F. S. TREMLETT, F.G.S., was announced.

Mr. WORTHINGTON G. SMITH exhibited four palæolithic implements from Madras, upon which Mr. Walhouse offered some remarks.

The following paper was read by the author:—

On the PROBABLE REGION *of* MAN'S EVOLUTION.

By W. S. DUNCAN, Esq., M.A.I.

ASSUMING that man was evolved from a form lower in organisation than that of the lowest type yet discovered, that his origination formed no exception to the general law of evolution recognised as accounting for the appearance of the lower forms of life, Man's most immediate ancestors must have been similar in structure to that of the existing anthropoid apes. Yet it is not necessary to suppose that any of the anthropoid apes at present existing belong to the same family as that of man. It is only indispensable to the hypothesis of man's evolution to say that man formed one at least of a set of families of man-like animals somewhat similar to the present apes. For in seeking for a transitional link between man and a lower form we naturally look for a structure having a smaller brain capacity, and a body less adapted to the upright posture. To seek for this is to search for a form more ape-like in all respects. As was admirably summarised by Darwin in his "Descent of Man" (p. 190), "Nearly all the more important differences between man and the quadrumana are manifestly adaptive in their nature, and relate chiefly to the erect position of man, such as the structure of the hand, foot, and pelvis, the curvature of the spine, and the position of his head." If, then, by palæontological evidence we can trace the changes through which the human form has passed from a semi-erect, quadrumanous, small-brained creature to an erect, large-brained biped, we shall have raised the doctrine of

man's evolution from the low ground of hypothesis to the elevated platform of historical fact.

I shall now inquire what evidence, if any, we possess to lead us to hope for success in the search for fossil remains demonstrating the existence in past geological time of such transitional links.

The quarter from which our first ray of light comes is that of the science of distribution, or the compilation of facts which proves the geographical distribution, in present and past time, of the order *Primates* to which man belongs. According to the standard work of reference by Mr. A. R. Wallace, namely, his "Geographical Distribution of Animals," we learn that there is no evidence to show that any but the lowest families of the Primates—to wit, the Lemurs, and the lowest types of monkeys, were distributed to both the New and the Old World, man of course excepted. It is therefore probable that these families originated within the Arctic Circle so as to become easily distributed over both hemispheres; for their powers of locomotion are so limited, and their dependence on a warm climate where fruit-trees abound is so absolute, that the distribution of these animals from one hemisphere to another after they had passed south of the Arctic Circle is extremely improbable, if not altogether impossible. The least indispensable conditions under which animals, originated in either hemisphere south of the land passage between the two, could pass from one hemisphere to the other, must be that they should be compelled to accommodate themselves to lower temperatures, and to entirely new kinds of food. There is no evidence to show that either the lemurs or the lowest types of monkeys were compelled to fly northwards, and so to alter their habits and constitutions, and therefore we account for their existence in both hemispheres by supposing them to have been originated within the Arctic Circle at a period when that region was tropical.

But while it may safely be supposed that the lowest members of the Primates took origin in what is now the frigid zone, it cannot be deemed at all likely that the higher types of monkeys, much less the anthropoid apes, ever existed so far north. There is no evidence that they ever appeared in America, while they have been and still are distributed in the Old World. Had the higher monkeys, or the anthropoid apes, been evolved within the Arctic regions they would in all probability be found, living or fossil, in the New as well as in the Old World. Until any evidence is adduced that these higher families of the Primates were distributed to America it would be idle conjecture to suppose that they originated within the Arctic Circle; and if there is no evidence to show that these families took origin in

that region it is infinitely less probable that the latest, highest, most specialised of all animals—man—began being in these remote regions. On the other hand, since only the lowest members of the Primates have been distributed to both eastern and western hemispheres, while the higher members exist abundantly in the Old World, these facts indicate emphatically that the higher primates were originated on this eastern hemisphere—and this, too, in a latitude so far south of the land connection between the two worlds that, for reasons already mentioned, it became impossible for them to enter afterwards the continent of America.

Again, the fact that man, in remote antiquity, became universally distributed only proves that at that distant epoch he had thoroughly acquired the necessary powers of locomotion, and of accommodating himself to varieties of climate, temperature, and food, which among other characteristics mark him off as an improved and highly specialised type. What we already know of distribution, then, points to this first important conclusion—that the higher primates, and therefore man, were not originated within the Arctic Circle, nor yet in the New World, but somewhere in the Old World alone.

Being now confined to the Old World in our quest for the remains of incipient man, let us next see whether we cannot get some definite evidence as to the locality in this hemisphere where his relics are to be found, still taking as our clue to search the known facts of distribution, in past and present time, of the monkeys and apes of the Old World, and beginning with the lowest family, according to Mr. Mivart's classification (which is adopted by Mr. Wallace): it is as follows:—

The *Cynopithecidæ*, or Old World monkeys of the dog-shaped type, have, according to evidence, lived during the middle and later tertiary time in the south of England, the south of France, and in Northern India. At present they are found in Gibraltar, Northern, Western, Tropical, and Eastern Africa; they are also in Arabia, India, Eastern Thibet, Japan, and the Malay Islands, including the Phillipines and the Celebes. This goes to show that this, the lowest family of monkeys, has been distributed, since middle Tertiary time, from the west of Central Europe to Southern Europe and Eastern Asia, and from thence as far south as the tropics of Africa and Malaysia.

The next higher family of Simii, namely, the *Semnopithecidæ* have during the same middle and later Tertiary periods lived in Southern Germany and France, Italy, Greece, and Northern India. They are now found in Eastern and Western Africa, Indo-China, India, Ceylon, and Malaysia. Thus this family, which is intermediate between the lowest monkeys and the

anthropoid apes, has, like the former, been dispersed from Central and Western Europe to Southern Europe and South-Eastern Asia, and thence down as far as about the Ethiopian and Oriental tropics.

As yet no evidence exists that the highest family of the Simii, namely, the anthropoid apes, ever had a range so far north as that of the Semnopithecidæ or the Cynopithecidæ. Of the man-shaped apes the lowest genus, *Siamanga*, has not as yet been found fossil: at present it ranges through Malacca and Sumatra. Remains of the genus next in order, namely, *Hylobates* (or of forms closely allied to this genus), have been found in the south of France (I allude to *Dryopithecus* and *Pliopithecus*), but the living representatives are now confined to Java, Assam, and Southern China.

Though the genera next in order, namely, those to which the Orang, the Gorilla, and the Chimpanzee belong, have not yet been discovered fossil, a genus, different from all but more nearly allied to that of the chimpanzee, has recently yielded remains in the Siwalik hills of India. I refer to *Palæopithecus*, as described by Lydekker in Part XII of the "Records of the Geological Survey of India."

But though our palæontological evidence is meagre as to the place of origin and past distribution of the anthropoid apes, yet the fact that one genus, allied to *Hylobates*, has been proved to have existed in the south of Europe in Miocene times, and is now represented by the Gibbons in South-Eastern Asia and Java, while another genus more nearly allied to the chimpanzee of Western tropical Africa is proved to have lived in Northern India in Pliocene times,—these facts, I say, prove that a wave of anthropomorphic life existed from later Miocene to Pliocene times in the south of Europe and sub-tropical Asia.

The question next arises whether the genera of apes now existing have not been all derived from the south of Europe and sub-tropical Asia, as is proved to be the case with *Hylobates*. It is a most noteworthy fact that the whole of the existing genera of apes are equally divided between two regions so remote as Central Africa and Malaysia. It is a fact that indeed cannot be accounted for by supposing either of these regions to be a centre of ape-origin. Apes are too fond of the comforts of warmth and abundance of fruit to exchange without compulsion a tropical for a sub-tropical region. And this they would require to do if it were supposed that the apes of one of these regions were derived from the other region.[1] Again, the difference between

[1] The supposed lost continent underlying the Indian Ocean—*Lemuria*—is, for reasons given by Mr. A. R. Wallace, assumed to have had no existence.

the apes of Africa and those of Malaysia is too great to allow of the supposition that one set is derived from the other set. The supposition that Africa and Malaysia were each a separate centre of ape-evolution is too far-fetched for acceptance, seeing that the Oriental group is distinctly proved to have been derived from the south of Europe. The simplest inference, then, seems to be that all the genera of living apes are derived from Southern Europe and sub-tropical Asia.

But the lowest types of mankind are also found in the very regions where the anthropoid apes now exist. Our next question, then, is whether, on the assumption that man was evolved, he passed through the transition stage between ape and man in the tropics of Africa, or Malaysia, or in a latitude higher up?

Although many naturalists, and among them some of the most eminent, have regarded the present home of the anthropoid apes as the most probable region where man was evolved, and although I must confess that this was my own earlier belief, I must now dissent from this view for the following reasons:—

Firstly, the presence in the tropics of Africa and Malaysia of about equally inferior types of man, such as the Akka dwarfs in Africa, and the Aetas in Java—the former being characterised by prognathism most pronounced, and the latter by the most generally ape-like type of head and face—suggests derivation from a higher latitude as truly as does the presence in the same regions of the existing genera of anthropoid apes. In other words, just as apes existed in Europe and Asia before they reached the tropics, as is proved by palæontological facts, so we may infer that man existed in Europe and Africa before the low types referred to occupied tropical Asia and Malaysia. At least the presence in these latter regions of the low human races referred to need not suggest their origin in either Africa or Malaysia, any more than does the presence there of the anthropoid apes suggest their separate tropical origin.

Secondly, there is no evidence that the present habitat of the apes, regarded in its physical or geographical character, is such as to supply the forces necessary to evolve apes into manhood. The character of the habitat is too well suited to the wants of the ape to furnish any sufficient stimulus to its raising its status. We must look to some region where apes were compelled gradually to give up ape-habits of living in trees, and feeding on a mere fruit diet,—a region where apes were *compelled* to change their food and mode of locomotion, so as to develop more erect and elegant forms, with enlarged brains, and quickened intelligences,—a region forcibly subjecting them to lower temperature, and so making it possible for them ultimately to

become universally distributed. No topical region supplied the conditions necessary to produce such changes. In what direction, then, must we look?

We have seen that it would be out of all reason, as far as present evidence goes, to suppose that the ape, out of which man sprang, was an inhabitant of America or of the Arctic regions. We have also seen that there is no evidence to show that apes existed farther north than Central Europe, and we have seen that they have been traced to Southern Europe and Northern India in Miocene and Pliocene times. In short, we have seen that there has been a gradual southward distribution of simian life, as of every other form of life, in consequence of the gradual cooling down of the northern zones of our globe.

The tendency of the steady process of refrigeration was of course to drive all forms of life, by degrees, southward to the tropics, excepting such as should become compulsorily adapted to temperate or cold climates; and had there been no barriers to this southward distribution in the Old World it is very probable that apes would never have had a fair chance of becoming evolved into manhood.

But geographical barriers did exist that were, on the one hand, unfavourable for apes moving southward, and so continuing to be apes, and on the other were favourable to their detention in the very region in which they had the best chance of becoming men, if they were to survive at all. What then were those barriers?

The principal barrier which prevented the apes from easily moving southwards was, briefly, the enormous extent of sea border on the south of Europe and sub-tropical Asia. On the south of Europe was the Mediterranean, separating Europe from Africa. On the south of sub-tropical Asia was the Arabian sea and its diverging branches, which in Miocene times extended from at least high up the Euphrates valley, down the Persian Gulf, round into the valley of the Indus and the Punjab. The Red Sea and Gulf of Suez, moreover, then ran into the Mediterranean. It is not impossible even that the Jordan valley was then filled with water, extending from the Red Sea to the Euphrates valley, thereby probably cutting off Arabia from Asia. It is not certain that, in Miocene times, what is now the Strait of Gibraltar was dry land, or that Europe was connected by an isthmus through Italy and Sicily to Africa. But allowing that land connections did exist, both between Gibraltar and Tangier, and between Italy and Tunis, yet there was still a water separation of some five thousand miles extent on its northern border between Europe and Africa, as compared with two bands, of fifty and a hundred miles respectively, of land

connection. Then, even if we admit that Arabia and India, as well as Malaysia, might have been reachable by similar narrow land routes, there was still a sea-barrier, of four to five thousand miles extent, cutting off the tropical from the sub-tropical regions of Asia.

Thus the Mediterranean Sea on the one hand, and the Arabian Sea, with its diverging branches up the Euphrates, Scinde, and Punjab valleys, on the other, proved immense sea-barriers, which must have arrested the southward migration of the anthropomorphous apes in Miocene and Pliocene times, preventing them from reaching the tropical regions of the Old World, so necessary to their comfort, and so well suited to their physical constitution.

Let us now inquire into the importance of this fact of a southern sea-barrier, together with attendant physical conditions on the future of anthropomorphic life.

The gradual southward dispersal of all forms of life was due to the approach of cold from the northern latitudes, distantly premonitory of a coming Ice Age. Impelled southwards by cold, and arrested by a southern sea-barrier, what must have been the effect upon the anthropoid apes of Southern Europe and sub-tropical Asia? Those apes that were near to the narrow land connections between Europe and Africa would of course escape (as far as to North Africa) from the effects of approaching cold; those similarly placed in Asia would be able to save themselves from like discomfort. *All the rest, however,—and they must have formed a vast majority*—who never knew of a possible way of escape, must have been obliged to remain and contend with adverse circumstances. First, they would have to contend with the conditions of a climate to which, for temperature, they had hitherto been unaccustomed. They had to become adapted to withstand a low temperature, and so develop one of the distinguishing characteristics of man, whereby he became universally distributed; or else they had to perish, as soon happens with apes brought from a tropical to a temperate region at the present day. Here, then, was the first struggle for existence, or for the development of one characteristic of man. Some, perhaps many, genera of apes died out in this struggle, but others doubtless were for a time successful, and were followed by a posterity still more successful. It must be remembered that this change from a warm to a temperate, or even cold climate, was gradual, and therefore admitted of adaptation more easily than at first sight might be imagined. Yet, doubtless, many genera died out, unable to protract the struggle. One thing seems very probable, namely, that the apes at present occupying the Equator are not likely to have been derived from the stock that were obliged to

remain and contend with cold, but are more likely to be the descendants of those who were near the narrow land connections from Europe to Northern Africa, and from Asia down into Malaysia. The Ethiopian apes, however, are on the whole more highly developed than the Oriental ones, possibly on account of the long detention of their ancestors in the mountainous district of Northern Africa, arrested by the Sahara sea or desert.

The recently discovered Pliocene fossil, *Palæopithecus*, too, which has been shown by its teeth to be more highly developed than any existing Oriental ape, probably owed its superior development to its detention in the Himalayan region.

The same set of circumstances which drove the apes from Central to Southern Europe and Asia, and arrested their progress farther southwards (namely, on the north the increasing cold and on the south the sea-barrier), would operate upon immense hordes of other animals that had to contend with the same climatal hardships. The crowding together in this region of all kinds of animals must have given rise to other struggles, fiercer perhaps than those due to a lowering of temperature. In this region the struggle between natural enemies must have been intense, and was well calculated to sharpen intelligence, and promote the growth of brain. The apes, by nature endowed with imperfect powers of locomotion, would be compelled in self-defence to use their hands and arms in wielding weapons, instead of taking shelter in trees. Wood, horn, bone, and stone weapons or missiles would doubtless be used for such purposes with at first, perhaps, little care as to their suitability, and with no attempt at construction. But they doubtless played their part in training and educating the arms and hands of the improving ape.

The continued increase of cold would have another great result. By eliminating the number and extent of fruit-forests, the surviving apes would be compelled to adapt themselves gradually to new varieties of food. The compulsory departure from an exclusively fruit diet would probably be followed by the use of roots; or, in the neighbourhood of rivers, lakes, and seas, the apes would probably seek to secure a diet of mollusks, or of fish, or even now and then, perhaps, of stranded cetaceans. Is it not possible, then, that the man-like apes were by this means so far developed into ape-like men as to be intelligent enough to make for themselves implements of some kind, whereby they cut away the flesh of stranded whales, and left their ribs marked and notched (as Professor Capellini has found them) as a memento of this transition period of struggle? Whatever the apes of that time were obliged to live upon, it is certain they

would in many cases have been obliged to change from a purely vegetarian diet.

But this necessity of resorting to search for other kinds of food would have the effect of shortening the upper limbs that had hitherto been so much applied to purposes of swinging from bough to bough in the luxuriant forests of fruit-trees. The upper limbs would shorten from the cessation of this habit: the hand would become developed into a more man-like organ of prehension. The lower limbs, on the other hand, would become stronger with exercise, and the foot, by frequent use, more adapted to support the body, and would more and more depart from the character of a prehensile organ.

But there is one other set of circumstances remaining to be considered, that must have greatly augmented the force of such conditions as I have described, and therefore have greatly increased the results I have shown, that must have flowed from them. It is this: the dry land in the south of Europe and sub-tropical Asia was steadily rising from the beginning of Miocene times, became gradually hilly, then mountainous, till eventually it became, as it is at the present day, "almost wholly a region of mountains and elevated plateaus." As the greater part of this district coincides with the south of the Palæarctic region or the Mediterranean sub-region in Mr. Wallace's "Geographical Distribution," and as that writer has given an admirable description of its present state, I cannot resist making the following extract:—"On the west, Spain is mainly a table-land of more than 2,000 feet elevation, deeply penetrated by extensive valleys, and rising into lofty mountain-chains. Italy, Corsica, Sardinia, and Sicily are all very mountainous, and much of their surface considerably elevated. Further east, we have all European Turkey and Greece, a mountain region with a comparatively small extent of level plain. In Asia the whole country from Smyrna, through Armenia and Persia, to the further borders of Affghanistan, is a vast mountainous plateau, almost all above 2,000 feet, and extensive districts above 5,000 feet in elevation. The only large tract of low-land is the valley of the Euphrates. There is also some low-land south of the Caucasus, and in Syria the valley of the Jordan. In North Africa, the valley of the Nile, and the coast plains of Tripoli and Algiers, are almost the only exceptions to the more or less mountainous and plateau-like character of the country" (pp. 199, 200).

The more eastward part of sub-tropical Asia, namely, the north and north-east of India, is so well known to be mountainous that it needs no description.

Now, in order to prove that the whole of this district of Southern Europe and sub-tropical Asia has been gradually raised

during Tertiary time, I give a short extract from Sir Charles Lyell's "Elements of Geology":—

"The nummulitic limestone [which I need hardly say is of Eocene date] of the Swiss Alps rises to more than 10,000 feet above the level of the sea, and attains here and in other mountain-chains a thickness of several thousand feet. It may be said to play a far more important part than any other tertiary group in the solid framework of the earth's crust, whether in Europe, Asia, or Africa. It occurs in Algeria and Morocco, and has been traced from Egypt (where it was largely quarried of old for building the Pyramids) into Asia Minor and across Persia by Bagdad to the mouths of the Indus. It has been observed not only in Cutch but in the mountain-ranges which separate Scinde from Persia, and which form the leading passes into Cabul; and it has been followed still farther eastward into India as far as Eastern Bengal and the frontiers of China." Further, "Dr. Thomson found nummulites in Western Thibet at an elevation of 16,500 feet." Again, summarising the facts, he says: "All the mountain-chains, such as the Alps, Pyrenees, Carpathians, and Himalayas, into the composition of whose loftier parts the nummulitic strata enter bodily, could have had no existence till after the middle Eocene period. During that period the sea prevailed where these chains now rise" (pp. 260–1).

Since elevation has never taken place suddenly, it follows that from the beginning of Miocene times these mountains and plateaus have gradually risen, through the Miocene and Pliocene epochs, till at last they attained their present elevation. The fact of their gradual and not sudden elevation is marked by the known deposits of Miocene and Pliocene age on the flanks and bases of mountain-ranges of the Pyrenees, the Caucasus, the Himalayas, as well as the mountain-ranges of Italy, and also in Greece. Now it was in later Miocene and in Pliocene times that the family of anthropoid apes occupied this region, and were, along with hordes of other animals, endeavouring to become adapted to the lower temperature which was stealing upon them gradually from the north. As time went on, the increase of cold, which proceeded from the refrigerating causes that culminated in the last glacial epoch, had *added to it* the increase of cold due to gradual elevation of the land in this extensive zone. The effect of gradual elevation would manifestly be to greatly augment the changes of structure, habit, and character of those apes that were able to keep up the struggle. These changes, as I have already said, would be—first, a hardened power of contending with cold; the acquisition of habits of living on varied food; of using weapons of self-defence,

and so improving the hand; of abandoning the forest-life, and so improving the powers of locomotion and proportioning the lower to the upper limbs as in man; growth of brain by virtue of the stimulus afforded by all the factors in this long-protracted struggle. And to all this I add yet farther that the mountainous character of the region perfected the human characteristics of an erect posture—curving the spine forward in the lumbar region, and widening the pelvis as the result of action in ascending and descending the mountain sides.

Having completed my argument as respects the region of Man's evolution, I am bold to repeat that the due consideration of the geographical, climatal, and other conditions of this southern portion of the Palæarctic Region upon the anthropoid apes which occupied it in later Miocene and Pliocene times, taken in connection with the facts of distribution of the higher *Primates*, must lead to the conclusion that this region was of all others the most likely to have supplied the conditions necessary to the evolution of the bimanous erect and large-brained form of Man out of the quadrumanous semi-erect and small-brained form of the Ape.

One word, in conclusion, with respect to the practicability of discovering those remains which my argument goes to show lie entombed in strata of the south of the Palæarctic Region.

I have already quoted authorities to prove that the whole of this zone had undergone a process of gradual and continuous upheaval during Tertiary time. The lowest of the Tertiary strata, in point of actual altitude, namely, the Eocene, is found at heights from 10,000 to 17,000 feet above sea-level. Since upheaval must at all times be gradual it follows that the continuous rising of the land into what are now lofty mountain-ranges would have the effect of tilting the various layers of strata deposited through Miocene and Pliocene times.

The inclination of these strata, therefore, gives us every encouragement to believe in the accessibility of the remains of which we are in quest. Though there is yet much to learn about the geology of the south of the Palæarctic Region there is even now abundance of information to guide exploration. Unfortunately, perhaps, for *us* most of this extensive region is under other than British rule, else we might prosecute inquiries in the Pyrenees or the Caucasus, or in some of the promising districts of Italy. Our protectorate of Asia Minor, however, might enable us to obtain leave of the Turkish Government to explore any portion of that country that might be deemed fruitful of search. Having retired from Afghanistan we need not indulge the hope of soon exploring that country. But there is India at our command. According to evidence confirmed by

the Records of the Geological Survey of India, Miocene and Pliocene deposits occupy the northern border of the Punjab, the western border of Scinde, and the mountain-range between India and Burmah. In exploring for the remains of pithecoid man it is of course necessary to confine our search to deposits of fresh-water or brackish water origin. In marine deposits we of course would search in vain. Moreover, it would be advisable to limit our search, even among fresh-water strata, to such as gave promise of good preservation of osseous remains. Matters such as these, however, constitute details that would be sure to receive the attention of any earnest investigator. The main question to be settled first is, whether my argument in favour of the evolution of man in the south of Europe and sub-tropical Asia is sound. If not, let it be mercilessly overthrown. If, on the other hand, it be deemed feasible, can any reason be advanced against a Committee of Exploration being formed out of the members of this Institute to prosecute this inquiry, which of all others in anthropology or biology—nay even of all knowledge—is fraught with the deepest interest to mankind?

If it be urged that such a committee, by being destitute of funds, is helpless, I reply that this is far too desponding a view to take. Who knows but that the formation of such a committee might be followed by the arrival of funds? But even without funds a small but earnest committee might be of incalculable service in stimulating and keeping alive inquiry into the palæontological history of man. Such a committee, for example, might call the attention of anthropologists, or men of science interested in anthropology, who happened to be located in the region I refer to, or who contemplate exploring any portion of that region, to the bearing of the evidence I have just pointed out on the question of the evolution of man, so that they might be induced to add to that evidence. The Institute already adopts this mode of procedure in adding to its information respecting other fields of anthropological inquiry, such as the acquisition of facts of measurement, form and colour of the living races of mankind. Why should not inquiry be also stimulated to search for palæontological traces of pithecoid man in Miocene and Pliocene fresh-water strata of Southern Europe, Northern Africa, and sub-tropical Asia? There is no reason that I can find against such an inquiry being prosecuted; but it is clearly necessary to its being properly attended to that a committee, however small, should be appointed which shall at once possess the authority and prestige of this Institute, and be responsible for reporting to it from time to time the results of its acquired information, or of the amount of stimulus it has given

to individuals or expeditions favourably situated for prosecuting such an investigation.

I close by earnestly hoping that the Council may take an early opportunity of favourably considering my suggestion for forwarding enquiry into this subject of palæontological anthropology, or the question of the When, Where, and How of man's origin.

Discussion.

Mr. James Heywood, Mr. Park Harrison, M. Bertin, and Dr. Garson took part in the discussion.

The Chairman, in summing up, expressed his opinion that the paper was well and carefully put together, and had elicited a very useful discussion, but he doubted whether it took in all the circumstances of the case. Assuming that man was descended from a lower creature he thought it more likely that several of the different races originated in different places than that they were all descended from the same stock; and some of the areas of evolution were very likely buried in the sea. He doubted whether any one had ever supposed that men were descended from monkeys, although many thought that monkeys and men were descended from the same source. The district in which the author expected to find the missing link was well looked after by continental anthropologists, and in view of this, and of the fact that the whole Institute was a standing committee for the collection of anthropological information, he thought the appointment of a special committee was not necessary.

The Ethnology *of* Germany.—Part VI.

The Varini, Varangians, and Franks.—Section I.

By Henry H. Howorth, F.S.A.

We will commence our paper, in which some very heterodox views will be maintained, by a survey of the various theories about the origin of the Franks. One of these may be dismissed almost in a sentence. This is the theory of some too patriotic Frenchmen, including Dom Bouquet, Hadrianus Valesius, and Dubos, who argued that the Franks were of Gallic race—one author urging that they were descended from the Gauls who had formerly lived in the Hercynian forest. I need not say that no historian holds this view now. The facts are absolutely over-

whelming to prove that in language, in laws, in customs and institutions, in nomenclature, in their archæological remains—in fact, in everything by which we can discriminate races—the Franks were of Teutonic origin.

Another theory might be dismissed equally quickly if its existence at an early date were not interesting on collateral grounds. Rospatt, author of one of the famous "Programms," so well known in Germany (entitled "Kritische Beiträge zur Aeltesten Geschichte der Franken," p. 11), says: "When the Franks became a powerful nation, and when the literary class, the clergy, as well as the chiefs, chiefly consisted of men of Frankish origin, it was natural that classical antiquity should be searched through to find a becoming ancestry for the martial race which had now become so important. Virgil was then the most widely read and familiar writer, and the expedition against Troy and the foundation of Rome the most famous events in popular imagination. It was natural, therefore, that Troy should be made the point of departure of the French genealogists, and that the martial opponents of the Romans should be derived from Priam and his people."

A genealogy of the Carlovingians, printed by Pertz (ii, 310), has the phrase, "Priamus et Antenor egressi a Troja, venerunt in Secambria, et inde in Pannonia, et inde in Mæotides paludes, et inde juxta ripas fluminis Reni in extrema parte Germaniæ." Again, a scholiast to Fredegar, whose notice is printed by Bouquet (ii, 391), after describing the wanderings of the fugitives from Troy, goes on to say: "Denuo bifarea divisione Europam media ex ipsis par cum Francione eorum Rege ingressa fuit. Qui Europam pervagantes cum uxoribus et liberis Rheni ripam occuparunt. Nec procul a Rheno civitatem ad instar Trojæ nominis aedificare conati sunt . . . . et per Francionem vocati sunt Franci." Mr. Perry says this Trojan theory has been defended in modern times by Türk, "Kritische Gesch. der Franken." A false reading in Cicero's "Ep. ad Atticum" (lib. xiv, epist. 10), where Fangones has been corrupted into Frangones, has been brought forward to prove that the Franks were known by that name in the time of Cicero (Cluverius, "Germania Antiqua," iii, 82; "The Franks," by W. C. Perry, p. 41, note 1).

Of course this Trojan origin of the Franks is mere fable, but it is very curious how general these fables were. Ammianus Marcellinus, after discussing various theories about the origin of the Gauls, says: "Some, again, maintain that after the destruction of Troy, a few Trojans, fleeing from the Greeks, who were then scattered over the whole world, occupied these districts, which at that time had no inhabitants at all" (*op. cit.*, xv, 9).

We all know how many jibes have been cast at Geoffrey of Monmouth for a similar pedigree which he gives to the Britons, and few remember that, several centuries before Geoffrey wrote, the same story was told in a truncated form by Nennius, another proof that Geoffrey was not the inventor and impostor he is often made out to be. But returning to the Trojan story about the Franks. In the popular histories of the last century it was the fashion to deduce the line of Frank kings from an ancestor named Pharamund. Latterly, with every justice, this person has been treated as purely mythical. He is quite unknown to the earliest Frank chroniclers, Gregory of Tours and Fredegar, who would assuredly have mentioned him had he really existed. His name first occurs in an interpolated passage in a corrupt copy of Prosper of Aquitaine, where we read, under the year 417, the twenty-sixth year of Honorius: "Faramundus regnat in Francia." On which passage Mr. Perry speaks as follows:—"No value whatever is to be set on this passage of the work of Prosper, who lived in the fifth century." Two MSS. are extant, one of which appears complete and uncorrupted, and contains no reference to Pharamund. The other is full of irrelevant interpolations, and among them the passage above quoted, which probably dates from the seventh century. Henschenius, in his "Exegesis de Epistola Tungrensi," doubts whether the name occurs before the ninth century. Long ago, Leibnitz, in a famous paper on the Franks, which was published in 1720 as an appendix to Eccard's work entitled "Leges Francorum," suggested that Pharamund was a corruption of Priam, and we, in fact, find Prosper of Aquitaine, who died in 463, in his notice of Theodosius, saying, "Priamus quidam regnat in Francia quantum altius colligere potuimus." I am not sure that the name of Troy was not similarly suggested by that of the Tongri, in whose land the Franks were early settled.

The legend about Pharamund grew out of the interpolated passage above quoted, until, as Mr. Perry says, to Pharamund was ascribed, not only the permanent conquest made at this time by the various tribes of Franks, but the establishment of the monarchy, and the collection and publication of the well-known Salic laws. The "Gesta Francorum" make Pharamund the son of Marcomir, while in the "Genealogies" published by Duchesne he is made the father of Chlodio. As we have said, he is clearly a fictitious person, and must be erased from consideration as in the same category with the Trojan origin of the Franks.

A third theory about their origin, which is almost universally held now, is that the name connotes a confederation of Teutonic tribes which lived on the lower and middle Rhine, and which had long been known to the Romans under other names such

as the Sicambri, the Khamavi, the Bructeri, &c., &c., and which, in the latter part of the third century, adopted the common name of Frank. According to this theory, which has been adopted by Ledebur, Zeuss, and Grimm, among others, the Franks were not a new people, but an old and well-known race under a new name. This view is very plausible at first sight, and is apparently supported by some weighty evidence; thus, Gregory of Tours makes Bishop Remigius, when he baptised Chlovis, say to him: "Mitis depone colla, Sicamber, adora quod incendisti, incende quod adorasti" (Gregor. zur, 231). Again, Venantius Fortunatus, in addressing King Charibert, says: "Cum sis progenitus clara de gente Sygamber." Again, in the anonymous and contemporary "Life of the Bishop St. Arnulph," who died in the year 640, we are told, speaking of Dagobert, the son of Chlothaire, "ille acceptum ita altissima et profunda eruditia sapientia ut in Sicambrorum natione rex nullus illi similis fuisse narraretur."—*Acta Sanctorum*, July, vol. iv, p. 438.

In the "Vita Sigismundi" (Bouquet, iii, 402), we are told, speaking of the first appearance of the Burgundians, "In ipsis temporibus cum Sicambrorum gens; illicita convalescens manu, multas regiones et gentes finitimas cum suis Regibus propriis et subditus sibi ditiones prostrasset atque devastasset; inter alia occidentis regna Galliarum quoque fines invadendos audacter, licet inviti, petierunt." Again, in turning to the tribes neighbouring upon the Sicambri, we find Gregory of Tours quoting a passage of Sulpicius Severus, in which he mentions how Arbogast, pursuing Sunnon and Markomir, petty kings of the Franks, crossed the Rhine at the head of an army, ravaged the country of the Bructeri, as well as a village inhabited by the Khamavi, and that no one appeared to resist him, save a few Ampsuarians and Khattians, who, under Markomir, showed themselves on the neighbouring hills (Gregory of Tours, ii, 9). This passage seems to make the term Frank comprehend the Khamavi, Bructeri, Ampsivarii, and Khatti. Again, Ammianus Marcellinus, at an earlier date, tells us how Julian crossed the Rhine, and suddenly entered the district of a Frank tribe called the Attuarii, men of a violent character, who at that very moment were licentiously plundering the districts of Gaul (*op. cit.*, xx, 10).

These passages comprise the evidence upon which it has been generally argued recently that the Franks were a confederacy of the several Rhenane tribes known from early day, and it will be noticed that the most direct testimony is in the case of the Sicambri, who by many have been treated as Franks *par excellence*. Yet when we come to sift this evidence closely we shall find that it is very unsatisfactory.

The Sicambri were a famous martial race, familiar to the readers of Cæsar, but they were entirely crushed and deported by Cæsar's successors. Suetonius, speaking of Tiberius, says: "Sicambros dedentes se traduxit in Galliam, atque in proximis Rheno agris collocavit" (Suet., "Oct. Aug.," 21), and in another passage, again speaking of them, says, "Germanico (bello) quadraginta millia deditionem trajecit in Galliam, juxtaque ripam Rheni sedibus assignatis collocavit." (*id.*, Tib., 9). Eutropius (75) makes the number of captives then transported 400,000. Aurelius Victor, in "Cæsar Augustus," has the phrase, "Sucambros in Galliam transtulit." Strabo, who was a contemporary, speaking of the German bank of the Rhine, says of the people who occupied this country, "some have been transplanted by the Romans into Keltica, and others have retired into the interior like the Marsi"; and of the Sicambri he adds, "there remain a small portion" (*op. cit.*, viii, 1, 3); and Tacitus, who speaks with great authority when the question is about the Germans of the Rhine valley, says in his "Annals" (lib. xii, ch. 39), "ut quondam Sugambri *excisi* et in Gallias trajecti forent."

A late poet, referring to the same event, has the following lines:—

> "Sic ripæ duplicis tumore fracto,
> Detonsus Vahalim bibat Sicamber."
> (Sidon, carm. 13.)

These passages make it clear that the Sicambri, as a trans-Rhenane nation, were practically extinguished; *excisi* is the very strong word used by Tacitus. They were transported west of the Rhine, and no doubt became Roman citizens. Tacitus tells us how they were employed in the Roman armies, and speaks of "Sugambræ cohortis prompta ad periculas" (Tacitus, "Ann.," iv, 47). This Sicambrian contingent had its headquarters in Pannonia, and founded the *ancient* city of Buda, called Alt-Ofen by the Germans. This place, now a mere village marked by numerous Roman remains, still bears, we are told, the name Sicambria. (Duchesne "Hist. Franc.," script. 1) has printed the following inscription about it:—

> "Legio Sicambrorum
> Hic præsidio collocata
> Civitatem ædificavit,
> Quam ex suo nomine
> Sicambriam vocaverunt."

These Pannonian Sicambri are also mentioned by Adam of Bremen (lib. i, ch. 3) in the phrase, "Driades, Bardi, Sicambri, Huni, Wandali," &c. (Ledebur, "Das Land und Volk der Bructerer," note 518). I shall revert to these Pannonian Sicambri presently.

The burden of my present argument is that the Sicambri were practically evicted from their old seats by the Romans. How completely we may best judge when we consider that the name, after the beginning of the first century, completely disappears and does not occur again for nearly three centuries, when, as we have seen, it is used as a synonym for the Franks. There can be only one reasonable explanation of this, namely, the one adopted by Leibnitz and others, that the Franks were called Sicambrians, not because they were descended from the Sicambrians, but because they afterwards lived in and occupied the old country of the Sicambrians,—just as the English inhabitants of the United States are called Americans, the Spaniards in South America are called Mexicans and Peruvians,—just as Englishmen at home are called Britons. When the Franks became a strong and active body the Romans naturally called them Sicambri, as living in the country whence their formidable enemies, the Sicambri proper, had come.

We shall be strengthened in this contention if we turn to the other tribes with which the Franks have been often identified: the Khamavi for instance. In the Peutingerian table they are mentioned as a distinct body from the Franks in the phrase, "Chamavi qui et Franci." Ammianus Marcellinus describes how the Romans, after defeating the Salian Franks, marched against the Chamavi, as if the latter were a different people (*op. cit.*, xvii, 8).

On turning to the Bructeri we find similar evidence. In the Peutingerian table, whose date has been so contested, but which was probably compiled somewhere in the third century, we find on the lower Rhine the words, "Chamavi qui et Franci"; south of this the word "Francia," and south of this again the word "Burecturi"; and, as Zeuss has argued, here we not only find both Bructeri and Franci, but we also find the latter occupying a part of the old country of the Bructeri; and when we come down to the time of Bede, when the Frankish dominion was limited and bounded very definitely, we find him speaking of the "Boruchtuarii" as being assailed by the Saxons. They were doubtless the "Bructeri" of the older authors, and lived in the *gau* "Boroctra," in Westphalia. In passages where these Boruchtuarii are mentioned they are, to my mind, most clearly distinguished from the Franks. Lastly, as to the Khatti: they were apparently the ancestors of the modern Hessians, and not Franks.

Jornandes has a passage which reads as if he thought the later Franks a different people to the earlier Germans. His words are, "Gothi Germanorum terras, quas nunc Franci obtinent, depopulaverunt" (*op. cit.*, ed. Closs, 50).

It would seem, therefore, that the Franks proper were essentially distinct from the Sicambri, Khamavi, Bructeri, and other tribes, and were not, in fact, a collective confederacy formed out of them. It is quite true that when the Franks became the dominant race on the lower Rhine, and conquered all their neighbours, the latter were called Franks—as the Gauls after the conquests of Chlovis were called Franks, and as the various tribes which followed the standards of Attila and Jingis Khan were called Huns and Mongols respectively; but this was a political use of the name, and not an ethnic one. Such a use, in fact, as we find in Agathias, in his work, "De Imp. et reb. Gest. Justiniani," where he says they were formerly called Germans. Procopius also speaks of the Germans now called Franks. An old scholiast upon Juvenal ("Satyr," iv, ver. 147) speaks of the Khatti and Sigambri as "Gentes Germanorum sive Francorum." So, again, Jerome, in his "Life of Hilarion," in a passage quoted by Aimoin ("Hist. Franc.," ii, 10) has the phrase "gens . . . apud historicas Germania nunc Francia dicitur antiqua," which in a MS. of the twelfth century given by Pertz is altered into "Germania in Franchonslant" (Ledebur, *op. cit.*, note 815). In these cases we see the specific tribal name Frank becoming a generic name, equal in connotation with German, and due to the prominent place filled by the Franks among the Germans.

On *à priori* grounds it is exceedingly improbable that a number of rival predatory tribes should amalgamate into a homogenous nation, and adopt a new name, and such a name, too, as Frank. It is not infrequent for a number of disintegrated tribes to join together under a common commander to meet some imminent danger, but this is a very different matter to a nation being formed and continuing its existence on the terms of a partnership. Assuredly we should have some evidence of it in the most reliable and valuable of all sources of evidence, namely, the Salian and Ripuarian Codes, but not a word is breathed in these laws suggesting such a conclusion. How, also, on this theory can we account for the existence of the two entirely separate bodies of the Salians and Ripuarians, with separate laws and organisations, yet both adopting the new name of Frank? How, also, account for the fact that the Roman writers should not describe the formation of such a confederacy on their borders?

Whichever way we view the question the objection seems insuperable to accepting the theory that the Franks were a mere confederacy of old Rhine tribes under a new name. While the direct evidence seems to be as conclusive that they were new-comers in the Rhine lands when we first hear of them. They came at the same time as the Saxons, who were new men

as we know: they not only came at the same time, but also as companions of the Saxons, and apparently assailed the borders of the Channel in conjunction with them. They were a maritime and piratical race, which the remains of the Kheruscan league were not. The remains of their language ally them with the Transalbian Teutons, the Saxons, Angles, and Lombards, and not with the Platt-Deutsch-speaking folk of Nether Saxony. They were ruled by a race of kings belonging to the sacred caste of the North, and known in their case as Myrvings, just as the other invaders of the Roman Empire, who came from beyond the Elbe in the third and fourth centuries, were. Their manners and institutions in early times were not those of a race long familiar with Roman civilisation, but of a martial race who had lived isolated from Roman influences.

The native tradition of their origin, as preserved by Gregory of Tours, makes them come from the East, from Pannonia, when they settled within the Roman borders, and does not identify them in any way with the old people of Westphalia. Their later intercourse with the English race in Britain points the same way. We find them linked several times with the Saxons in piratical attacks (*vide infra*). Procopius would have us believe that the Frank king, Theodebert, claimed some supremacy in Britain; and Pope Gregory, as Lappenberg has said, in his letter to the Frank kings, Theoderic and Theodebert, about the conversion of the Angles, seems to speak of them as subjects of the latter ("Saxons in England," i). Speaking, again, of the marriage of Ethelbert with Bertha, daughter of Charibert, king of the Franks, Lappenberg says that this connection between the princes admits the supposition of an intercourse between their subjects, and which, at a somewhat later period, does in fact appear to have subsisted at the great commercial fair of St. Denis, which was visited by Anglo-Saxons (*id.*, 130, 131).

On all grounds, therefore, I am constrained to the conclusion long ago adopted by Leibnitz, and recently by Beauvois, but which I reached entirely independently, and long before I read their works, that the Franks, like the Saxons, Angles, Lombards, &c., were recent immigrants into the area where we find them when they are first mentioned in history. Our next duty is to find out whence they came. Before considering this question, however, we must say a few words about their name. By the Latin annalists they were called "Franci"; in old High German, "Franchon, Franchono"; in Anglo-Saxon, "Frankan," "Francena"; and in Norse, "Frakkar" and "Frakka." Procopius calls them φραγγοι, and Libanius, "Phragkhoi"; in old Russian, "Fraji" or "Frajni." Grimm derives the name from the word "frank," meaning free, which in middle High German occurs

under the form "frech," while in Dutch it is "vrank" ("Gesch. der Deutsch. Sprach.," 358); but this is probably a *post hoc propter hoc* argument, and the term "frank," used as an adjective, is probably derived from the ethnic name "Frank," the Franks having been essentially free. Besides this argument we have the *à priori* improbability that a congeries of Teutonic tribes should have adopted such a name for itself as "free." Grimm virtually discards it, and favours another derivation from the Gothic *freis* and *friks, audax, avidus.* He quotes the fact that, in the preface to the Salian laws, the Frank race is called *inclyta, audax, velox,* and *aspera,* and thus establishes a connection with the God's name, Fria, Fricka, Fricco. This is, however, very far-fetched. Still more so is another suggestion of his, that the name is derived from the Gothic *hramyan* (figere), whence the Frank *adchramire,* and by the change of *ch* into *ph,* which is not infrequent, *adframire,* and the form *framea,* diminutive *frameca,* which in Anglo-Saxon becomes *franca.* Grimm inclines very favourably to this derivation. Others have deduced the name from the *francisca,* by which name the battle-axe of the Franks was called, as Isidore says: "Quas et Hispani abiusu Francorum per derivationem franciscas vocant" (*id.,* 361). It has been argued that as the Saxons were called from using seaxes, or short knives, the Suardones from using swords, the Longobards from using longbards (twin brothers of the better known halbards), the Franks were similarly called from using the francisca. Here again, however, we have an inversion of the argument; *francisca,* as the extract just quoted proves, is an adjectival form derived from the weapon used by Franks, and is not itself the root of the name Frank. Libanius has an etymology of his own (Zeuss, 326).

The fact is, the various etymologies suggested for the race-name Frank are none of them satisfactory, and we must turn elsewhere if we are to solve our difficulties. We have seen how, among certain Western authors, the name Frank became a generic one applied to the Germans.

Elsewhere it acquired a much wider generic meaning than this. Throughout the East, Frank is the synonym for a European, and not for the particular European whom we designate a Frank. The form of the name, as we thus find it in the East, is Feringhi. It has been supposed that the name with this meaning acquired currency there in the time of the Crusades, in which the chief actors were the French, and in which the armies consisted of a motley gathering of the Western nations. This I altogether question, and I believe it was not derived from the Crusaders, but from Byzantium,—not directly from the name Frank, but from the cognate name Varangian; Feringhi being in fact, only another form of Varangi. The Varangians formed

the foreign guard of the Byzantine emperors, which was recruited from many sources, and largely, as I believe, from the Low German races.

It became the name by which the Arabs called the Europeans generally, and from the Arabs it passed to the Chinese, who having no letter *r* in their language, replace it by *l*, and thus in the Chinese writers of the Mongol epoch, Europeans are called Fulangki.

The name Varangian was used in the same generic way by the early Russian chronicler Nestor, the source whence almost all we know of early Russian history is derived. The name by which he distinguishes the Baltic is that of the sea of the Varagians (*op. cit.*, ed. Leondel, Paris, 5, 6).

Under the year 859 he says: "The Varagians, *who live on the other side of the sea*, went and levied tribute on the Chudes, the Slaves, the Meriens, and the Krivitches."

Again: "During the year 860 to 862 the Varagians again crossed the sea. On this occasion the people whom they had already subdued refused to pay them tribute and wished to be independent, but there was not a shadow of justice among them: one family fought with another and caused great confusion. At length, to stop this they said to one another, Let us find a prince who will govern us justly. In order to find him we are told the Slaves crossed the sea and went to those Varagians who are called Russ-Varagians, as others are called Swede Varagians, others Urmans (*i.e.*, Normans), others Angli, and others Goths" (*id.*, i, 20).

In this passage Varagian qualifies the other names (Karamzin, i, 57), and we thus find the term Varagians used in Russia, whence it probably—nay, almost certainly—passed to Byzantium in a widely generic sense, including both Scandinavian and Germanic tribes, and apparently meaning all the borderers of the Baltic who were of other than Slave or Fin descent. The name occurs, for the first time in any Byzantine author, in the work of the Emperor Constantine Porphyrogenitus, De Ceremoniis. In describing the campaign against the Lombards in 935, speaking of the mercenaries in the imperial service, he mentions the Pharganoi. He names them several times subsequently. The next author who names them is Cedrenus in 1034, who, like the succeeding writers, calls them Baraggoi (Stritter, iv, Varangica, *passim*). It is a singular coincidence, which I did not notice till after this paper was nearly finished, that Jacob Reiske, in his notes to this part of Stritter, has the following note:—"Mihi dubium non est, Francos et Barangos et Waragos eosdem esse" (*id.*, 472). He quotes Barth and Ducange to the effect that the name Frank was formerly pronounced Feranki and

Faranki. In regard to the change of the initial *v* or *w* into *b* by the Greeks he quotes the similar corruption of Wallachi, or Vlakhs, into Blakhi (*id.*, 473). In the "Chronicon Casinense," ii, 37, 363, the name appears as Gaulanni (*id.*, 474–5). It has been urged that Varangi and Franci cannot be identified, since we find both Constantine and other great writers using both names—both Pharganoi and Phraggoi. This is true; but the fact is, one name had come from the Slaves and the other from the West of Europe, the latter having been meanwhile corrupted, and each form, although originally as I contend the same, had come to connote a different community.

We have thus traced the Arabic Feringhi to the Varangians at Byzantium, and this again to the Varagians or Varangians in Russia. The particular Varagians who infested Russia, Nestor tells us, were the Russ-Varagians; and we know from other sources, which are so generally familiar that they need not be quoted here, that in the ninth and tenth centuries these particular Varagians were of Norse race. Whence did they come? Nestor distinctly excludes Sweden and Norway, for he contrasts the Russ-Varagians with the Swede Varagians and Normans. Yet in most of the popular manuals we are gravely told that they were in fact Swedes; that at this day the Fins and Esthonians call Sweden *Ruotzi* and *Rootsimar*, and a Swede *Ruotzalainen* and *Rootslane;* and that a small district in Sweden is still called *Roslagen.* This is all very true, but it proves very little.

The Fins, according to the very probable and weighty opinion of Geijer, call the Swedes *Ruotsolaiset*, from the district variously called Roslagen, Rodeslagen, or Roden, by which names that part of the Swedish coast nearest to Finland was anciently known (*op cit.*, 12).

The name Roslagen, he says, has the same meaning as Skippslag, and he quotes the chancellor, Axel, in a protocol of the council of 1640, who says: "Rodslagen was so called because rookarlar (oarmen) or mariners, dwelt on the coast; for our forefathers were wont to assign to the seamen particular districts which they called Skippslag" (*id.*, 22, note 2).

Its import, Geijer adds, is still preserved in the subsisting division of the district into ship cantonments. The arguments, therefore, from Roslagen and the Fin word Ruotzlainen fall to the ground, while we have the direct testimony of Nestor for making the Russ other than Swedes or Normans. Excluding Scandinavia proper let us take our journey along the southern shores of the Baltic, and before long we shall meet with another Russia—a Po Russia, or flat Russia, but as much a Russia as the grand principality of Kief, and as worthy of having its etymology worked out. On turning again to Karamzin we find him

telling us that Po Russia was the name given to the borders of the lower Niemen or Memel, to which the name of Russ has from early times been given. The lagune known as the Kurisch Haff is called Russia (Karamzin, i, 59). A settlement on the spit of land enclosing the lagune is called Rossiten; a little town on the river Russ itself is also called Russ; while a considerable town, called Rosinee, occurs not far from the Niemen in the government of Kovno, in Lithuania. These facts point to a considerable settlement of Russians proper in this area; that they were intruders may be presumed from the distribution of the names on the sea-board and their sporadic occurrence among a host of Slave names, and also from the fact that it is only the lowest reach of the great river Niemen which bears the name of Russ. This is again confirmed by tradition, for we are told by the oldest Prussan annalists that the first inhabitants of their land, namely, the Ulmigans, or Ulmigars, were civilised by Scandinavian settlers who knew how to read and write (Karamzin, *id.*, 60); and in a Russian work of the thirteenth century, called the "Stepennaia Kniga," and other more recent chronicles, Rurik and his brothers are made to go from Prussia (*id.*, i, 59). This is a by no means unlikely halting-place for them on their cruise eastwards, but it is quite clear that in this colony of the Russ we have not yet reached their original homeland. If we proceed westwards along the Pomeranian shore we shall arrive presently at the district where Lübeck is situated, and which we are told by Leibnitz in old Russian documents is called Variach. It was occupied in early classical times by the Varini, who are universally held to be the Warings, or Varings, of the "Traveller's Tale." Were these Warings then the Varangians of whom we are in quest, and *ex hypothesi* the Franks under an altered name? I believe so. It is curious, by the way, that a Persian author, quoted by Dorn, should speak of the Russ as the Farang-i-Russ (see Caspia, 29), while Simeon Metaphrastes speaks of Rosabro, called Dromiti, of the race of the Franks (*vide op. cit., sub. an.* 904, 941). Theophanes does the same. Let us now trace the history of the Varini as far as it is available. They are first mentioned by Pliny, who, in describing the Vindili, one of the great sections into which he divides the German race, says: "Vindili, quorum pars Burgundiones, Varini, Carini, Guttones." The Carini of this notice are not otherwise known. Grimm suggested that the name corresponds to Varini, as Sciri does to Hirri. He also quotes the name Hëruo, an island in Augermanland, and another island called Herua, or Heruár, in the Norwegian province Sunumæri, as possibly connected with them. But these seem far-fetched notions, and I am disposed to agree with Mr. Hyde Clarke, that

under the name Carini Pliny perhaps refers to the Angli, who are not otherwise named by him (See Hyde Clarke on the "Settlement of Britain and Russia," Trans. R.H.S., vii, 254).

Tacitus, who wrote in the time of Domitian, is the next author who mentions the Varini. Speaking of the Langobards he tells us they were surrounded by various tribes, and preserved their liberty rather by their martial virtues than by their servility. He enumerates these tribes in the following order, apparently beginning with the head of the Cimbric Chersonese:—The Reudigni, the Aviones, the Angli, the *Varini*, the Eudoses, the Suardones, and the Nuithones, who, he says, were protected by woods or rivers. They worshipped the common goddess, Hertha or Nertha (the name being spelt both ways in the MSS.), which he says means Mother Earth. They held that she meddled in human affairs, and visited the peoples. Tacitus goes on to mention an island in the ocean containing a sacred grove where her sacred chariot was deposited: it was covered with a vestment, and was touched by the priest alone. He was conscious of her being present, and thereupon the chariot was drawn out, pulled by cows. A general festival took place, and during her progress war ceased, arms were laid aside, and swords were sheathed. At length the same priest re-conducted the goddess once more to the temple. After this, the chariot and sacred mantle, and, if report was to be believed, the goddess herself, were bathed in a secret lake; slaves assisted in this ablution, after which the lake swallowed them up (Tacitus, "Germania," xl.).

This island is doubtless the island of Rugen, a very famous centre of pagan worship, and apparently the focus of the great Suevian race, of which the Angles and Lombards were notable sections. Tacitus adds that this part of the Suevian nation stretched far away into the hidden recesses of Germany.

We will now turn to the notice in Ptolemy. He tells us that next to the Saxons from the river Khalusos to the Suebos were the Pharadini. I have already discussed this passage in a former paper on the "Migration of the Saxons" ("Journ. Anthrop. Inst.," vii, 293–4), and have shown that these Pharadini of Ptolemy were the Varini of Tacitus, and that the district between the Khalusos and Suebos is that of Mecklenburgh, which by every inquirer is made the original homeland of the Varini, and which, as I there showed, still contains traces of their occupancy in its nomenclature. I have hinted before, and shall enlarge upon the subject in my next paper on the Angles, that between the time when Tacitus wrote and the era of Ptolemy, *i.e.*, about A.D. 90, a very considerable change had taken place in the distribution of the tribes on the Elbe, and that by the invasion of the Saxons, who apparently came from the

eastern Baltic, there was a considerable disturbance in the neck of the Cimbric Chersonese. We thus find the Lombards broken into at least two sections, and it seems probable that the Varini were also so divided, and that while we have in the Pharadini of Ptolemy the main portion of the race we may trace another fragment of it under other names. He tells us that between the Saxons and the Suebi (*i.e.*, the Semnones) were the Teutonarii and Viruni. Between the Pharadini and Suebi were the Teutoni and Auarpi (*id.*, lib. ii). Zeuss argues that this name Auarpi, which apparently occurs nowhere else, is in fact a corruption of Auarni or Ouarni, and argues further that Viruni and Ouarni, or Warni, are merely forms of the same name, and both were forms of Varini. Teutonis and Auarpi, therefore, seem to be a mere repetition of Teutonarii and Varini, and the statements of Ptolemy simply mean that between the Saxons in Holstein, and the Pharadini in Mecklenburgh on the one hand, and the Semnones of Brandenburgh on the other (*i.e.*, doubtless, as Zeuss urges, in Havilland) was a tribe of Warni or Viruni, who were, as I believe, a mere section of the main tribe in Mecklenburgh.

In his description of the European Sarmatia, Ptolemy apparently refers to another section of the Varini under the name of Auarini, whom he puts near the sources of the Vistula, and next to the Ombrones. Ombrones, it will be remembered, is a synonym for the old Saxons in some of our early writers, and for Jutes in others, so that this collocation makes it very probable that by Auarini the Varini are really meant. Our contention, then, is that between the days of Tacitus and those of Ptolemy a considerable revolution had taken place among the Suevic tribes, and one consequence was the breaking of the Varini into two or three sections, one of which moved southwards in the direction of Pannonia. Another one, as I believe, remained behind in its old quarters.

Let us now try and follow the section of the Varini which, as we have seen, apparently migrated along the valley of the Elbe. We have seen how Ptolemy already places them in Havilland. Jornandes tells us that Theodoric, King of the Visigoths in the middle of the fifth century, having subdued the Suevi in Spain, set over them Achiulf, of whom he says: "Is sequidem erat Warnorum stirpe genitus, longe a Gothici sanguinis nobilitate sejunctus" (Jornandes, xliv; Zeuss, 361). Cassiodorus, again, speaks of the envoys sent by Theodoric, the Gothic king, to the kings of the Heruli, Guarni, and Thoringi (Cass. Var., iii, 3; Zeuss, *id.*); while Agathias describes the Franks as being neighbours, and as being in contact with the Italians.

From these extracts it would seem, therefore, that the one

section of the Varini was closely associated with the Goths, and doubtless, therefore, occupied, as Dr. Latham has suggested, a part of the Danube valley. Here we arrive at the critical part of our inquiry, namely, the link joining the history of the Varini and the Franks. As is well known, Gregory of Tours, the most reliable of the Frankish annalists, and who from his early date and official position had special means of knowing what the traditions of the people were, tells us that a great number reported that the Franks, having abandoned Pannonia, established themselves on the banks of the "Rhenus," crossing which, they passed into the country of Toringia, where in their towns and villages they made the long-haired kings chosen from their most noble family their leaders (*op. cit.*, ii, 9).

It has been suggested that this reference to Pannonia has arisen from a reminiscence of the Sigambrian colonists, who founded Buda Pesth as we have seen, but this is very improbable. It is very doubtful if such a point as the fact of these irregular troops having founded Buda could have reached the ears of Gregory of Tours, while his statement is perfectly consistent with our contention that it was a body of the Varini of the Danube valley to whom he refers. The latter part of the clause has given rise to great discussions. It has been contended very generally that by Toringia Gregory does not here mean what he usually means, that it is not Thuringia to which he alludes, but the district of the Tongri, from whom the modern town of Tongres takes its name, and this in fact seems the only solution, if we are to accept the general view that the Franks, in migrating from Pannonia, crossed the Rhine when they entered Toringia, but on this point there is great doubt. M. Guizot, in his note, says it is doubtful whether we ought to read Menus or Rhenus, but the majority of the MSS. have the latter; but granting this we still have the further question whether by Rhenus is here meant the Rhine. Upon this there has been much controversy. Leibnitz, who was a very ingenious and critical writer, says that the river dividing Pannonia and Thuringia is the Regen, and argues that the Rhenus of the passage of Gregory of Tours just cited was the Regen and not the Rhine, and he cites several cases of the similiar elision of the *g*, as Regenbart into Rembart, Regenbold and Reunbold. Regunnar and Reunnar, Regenstein and Remstein, Regenesburg and Remesburg, &c.

Further, we know that in early times the Thuringians inhabited the country as far as the Regen, and even further, as far as the Danube, as we gather from the narrative of the Anonymous Geographer of Ravenna. "Iterum desuper ipsam, quomodo ut dicamus ad faciem patriæ Francorum Rhinensum

est patria, qua dicitur Turingia, qua antiquitus Germania nuncupatur, qua propinquatur et patria Saxonum. Quam in patriam secundum præfatum Anaridum philosophum designavimus. In qua patria aliquanta castella fuisse legimus id est. . . . Per quam Turingorum patriam transeunt plurima flumina, inter cetera quæ dicuntur Bac et *Rheganum* quæ in Danubeo merguntur." Bac et Rheganum here mean, assuredly, as Leibnitz argued, the Nab and the Regen. That the Thuringians lived on the Danube in the fifth century we further learn from the "Life of Saint Severinus," by Eugippius, in which Thuringian invasions into Vindilicia are mentioned (*op. cit.*, 27 and 31).

Now it is a very remarkable fact that on crossing the Regen, in coming from Pannonia, the Franks would enter the district which I hold to be the typical land of the Franks, which is called Franconia in mediæval literature, and Franken by the modern Germans, which lies between the Danube and the watershed of the Main, and is traversed by the ranges of hills known as the Franken Hoheis and Franken Jura.

It is curious how in the various theories about the origin of the Franks there is no reference to this district having, *primâ facie*, been the primitive Frankland. The best possible proof of it is to be found in the preface to the "Laws of the Salian Franks." There are two well-known theories about the origin of the name Salian as applied to the Franks: one derives the name from the river Yssel, in Holland, near which is the district of Salland. The other theory connects them with the Saale, whose upper course flows through the district of the Franken Wald, which forms the north-eastern part of the district of the Franken. That the latter view is correct we conceive to be indisputable from the best of all witnesses, the introduction to the Salian code, which dates apparently from the pagan period. There we read that the laws were drawn up by Wisogast, Bodogast, Salogast, and Windogast, in the districts of Salagheve, Badogheve, and Windagheve, or, as another MS. has it, in Salaheim, Bodoheim, and Windoheim. The four names here given are clearly not proper names, but official ones, denoting officers attached to the gaus. Gast means, according to Eccard, *hospis* or *advena*.

Now on turning to the names of the gaus we find from the old annals of Fulda that Salagheve is in fact the name of a gau on the Saale, in Franconia; Bodagheve is a gau-name derived from the river Boda, at the foot of the Hartz mountains; and Wisogheve from the river Wisera. It will be noticed that there are four officials mentioned and only three gaus, and Eccard suggests that the name of a gau has dropped out equivalent to the Wisogast. He adds that, as the realm of the Franks extended from the Franconian Saale to the Bode, it included the

gau of Werra, formerly called Wirrah ha, and that Wisogast has been corrupted from Wirogast, *r* and *s* being easily mistaken for one another. Werro gau lay between Sala gau and Windo gau, on both banks of the Werra, where the county of Henneberg now is.

This evidence seems conclusive about the original home of the Salian Franks being the country bounded by the Main, the Hartz, the Visurgis, and the Saale and Elbe, and not Salland in Holland. The latter, in fact, apparently took its name from the Salians and not *vice versâ*, and it is more likely that this name was derived from the Saale, which was called the Sala, and not from the Yssel, which was never so called.

Our theory, then, is that the Franks were a colony of Varangians, or Varini, who made their way from Pannonia over the Regen, and founded a community in Franconia. We must next consider how the change of name came about.

Nothing is better settled than that the language spoken by the Franks belonged to that section of Platt-Deutsch to which the Anglian and Lombard belonged. This has been made clear from a study of the Malpergian glosses, &c. Until recently, however, a very different view prevailed, and in fact, in linguistic works, Francic was used as a synonym for a very typical High German dialect. This was natural to those who examined the later traces of the language, or examined it as spoken in Franken, where a language is spoken as markedly "High" almost as among the Suabians. This is indeed a dilemma, if we accept the linguistic creed of that magnificent explorer Grimm in its entirety, namely, that High German is an old Teutonic speech, bearing a collateral relation to the Platt-Deutsch of Hanover, but this view is no longer tenable. It is now being seen, and we shall have occasion to revert to the fact in a future paper, that High German is a comparatively modern tongue, probably dating no earlier than the sixth century. My own view, which I urged in a letter in the "Academy" some time ago, is that High German arose from the contact of the Romance-speaking folk, who lived in the Roman districts south of the Main, with the Platt-Deutsch-speaking invaders of that district—just as our English arose from the contact of Anglo-Saxon with the Langue d'oil, spoken by the Norman invaders of the eleventh century.

If this theory be sustainable, it follows that the Frank speech was originally a Low German language, which became High German by contact with the Roman provincials. Now one of the effects of this very change would assuredly be the conversion of the name Varing or Wareng into Farenk or Frank. To this day the word frank is spelt vrang by the Dutch of

Holland. I believe this offers a very reasonable explanation of the origin of the name Frank.

I will now add to this argument about the origin of the Franks from among the Varini, which I traced out before I read the tract of Leibnitz, another argument by which he says he was induced to the same conclusion. The author of the tract, who is generally quoted as the "Anonymous Geographer of Ravenna," was doubtless a German by origin. He dedicates his book to his brother Odocar (*op. cit.*, i, 13).

He puts Jerusalem in the middle of the world, which he makes circular, and divides into two portions by a line passing through that town—the night to the north, the day to the south. The first hour of the night is Germany, the second the country of the Frisons; the third Saxons. In regard to the fourth he says (lib. i, ch. xi): "Quarta ut hora noctis Normannorum est patria, qua est Dania ab antiquis, cujus ad frontem albes vel patria Albis *Maurungania* certissime antiquis dicebatur, in qua patria Albis per multis annos *Francorum linea remorata est.*"

Leibnitz explains the phrase "Francorum linea" as meaning the line or stock of Frank kings, and quotes a similar phrase from Paulus Diaconus, "Langobardorum faras hoc est gubernationes vel lineas"; again, in the "Vita S. Genulphi de Childerico": "Hic vero linea prosapiæ Pharamundi" (Leibnitz, *op. cit.*, 252, note). According to the passage of the Anonymous Geographer of Ravenna the Frank kings derived their origin from the district of Maurungavia, beyond the Elbe. The same district is referred to by Paulus Diaconus, in reporting the migrations of the Lombards. He calls it Moringia, and couples it with Scoringia. The names Mauring and Scoring, like the name Thuring, *cum multis aliis*, I take to be Norse clan names. In the case of Thuring, a mere corruption of Terving, the well-known name of the royal family among the Visigoths; in Mauring, a form of Merving, which was the actual name of the royal stock among the Franks, as we shall presently show. This etymology is assuredly most reasonable, explaining, as it does so completely, the phrase of the Anonymous Geographer of Revenna above quoted.

Mauringania, according to this view, is the land of the Mervings—both, perhaps, derived from their situation near the sea. In Icelandic, *myre, myri, mor;* Anglo-Saxon, *mire, mor;* Frisian, *myre, moer, moor, marth.* Thence the adjectival form *myrig*, which, with the ethnic termination *ing*, becomes by syncope, *Myrging*, as M. Beauvois ("Histoire Légendaire des Francs et des Burgondes," 1867) says. He adds that the Frisians of Resum Moor, west of Laek, in Slesvig, are still called Mauringe, or Moringe, citing in proof, *inter alia*, "Die

Nord Frieshische Sprache noc der Moringer mundart," by B. Bendsen, edited by M. de Vries, 1860).

In the Scop's tale the Myrgings are mentioned very frequently, as in line 8; in line 47, where we are told Meaca ruled over the Myrgings; in line 86, describing how Offa the Angle king enlarged his borders towards the Myrgings, by Fifeldor (*i.e.*, probably the Eider), and in lines 170, 172, and 194. I may add that Thorpe, in his notes, identifies the land of these Myrgings near Anglen with the Maurungania of the Anonymous Geographer of Ravenna (Thorpe's "Beowulf," 328).

We are not limited, however, to the Geographer of Ravenna. Ermoldus Nigellus, a famous Frank poet, writes:

> "Hic populus porro veteri cognomine Deni
> Ante vocabatur et vocitantur adhuc.
> Nort quoque Francisco nomine manni,
> Veloces, agiles arungerique nimis
> Ipse quidem populus late pernotus habetur,
> Lintre dapes quærit, incolit atque mare.
> Pulchra adest facie cultuque statuque decorus,
> *Unde genus Francis adfore fama refert*
> Victus amore Dei generisque unsertus aviti,
> Temptat et hoc Cæsar lucrificare Deo."
> (Dom Bouquet, iv, 50 and 51; Pertz. ii, 501.)

Here we have a tradition that the Franks were derived from the Danes.

Again, another contemporary of Louis le Debonnaire, Freculf, Bishop of Bayeux, who died in 850, refers in his "Universal History" to the opinions most generally held about the origin of the Franks, and adds: "Others affirm that this people came from the island of Scanzia, this mother of nations, whence sprang the Goths and other Gothic peoples, as their language attests. There is still in that country an island which they say is called Francia. By the grace of God we hope to treat more fully of this matter in the next volume" (vol. ii, ch. 17). Unfortunately Freculf does not seem to have carried out his intention.

The fact of these three authors all writing independently, makes their concurrence very interesting and remarkable. There are other facts pointing the same way: thus in the "Gesta Regum Francorum" we are told the Franks came from the Mæotis, but the Mæotis and the Baltic were frequently confounded. Thus Adam of Bremen says: "Fortasse mutatis nominibus arbitror illud fictum (mare Balticum) ab antiquitate Romanis appellari paludes Scythicas vel Mæoticas." Again, Fredegar, although much confused, seems also to put Franks on the Baltic (Eccard, *op. cit.*, 255); and it is not improbable that when Jornandes put the Heruli on the Mæotis he confounded it with the Baltic, as in the case of Procopius with the Vandals: so argues Leibnitz. It

is a remarkable fact that both Leibnitz and Beauvois, although bringing the Franks from the Elbe country, do not seem to have realised at all their possible relationship to the Varangians and Varini, which first made me come to the same conclusion—virtually, therefore, by an entirely different road. What is perhaps the most conclusive proof of all of our contention is that the Franks, like the other trans-Albingian tribes who appeared contemporaneously with them on the borders of the empire, were ruled and led by chiefs belonging to the yellow-haired sacred stock of the North,—to the same stock as the leaders of the Goths, Lombards, Saxons, Vandals, &c.

The Edda states that Odin set his sons *inter alia* over Frankland, and thence derives the stock of the Folsungs; while Gregory of Tours (ii, 29) makes Chlovis, when his wife first exhorts him to acknowledge the God of the Christians, exclaim, "Nec de deorum genere esse probatur."

The result, then, of our argument is that the Varini, who once occupied a long stretch of coast along the Baltic, were broken to fragments, shortly before Ptolemy wrote, by the advent of an invading race, probably the Saxons; that while one large body remained in its old quarters in Mecklenburgh, another moved up the Elbe, and apparently found its way into the valley of the Danube, where it lived in close contact with the Goths. Thence it crossed over the Regen into Franconia, and gradually altered its character from a Low German to a High German stock; and meanwhile, also, its Low German name of Varang, or Varing, was changed to its High German name of Frank. The subsequent history of the emigrants we shall revert to presently, and shall now consider the remaining body of the Varini, who were left behind in Mecklenburgh.

It is to these Varini, no doubt, that Procopius refers when he tells us how the Heruli, after being defeated by the Lombards in Pannonia, separated—some going to Illyria, while others, unwilling to cross the Danube, preferred to settle in the most distant regions of the earth; . . . after traversing a great solitude they came to the Ouarni, and then traversed the country of the Danes (Procopius de Bello Gothico, ii, 15).

Later on Procopius tells us how Risiulf fled from his uncle Vaces, the King of the Lombards, and sought refuge among the Ouarni, and left two sons there whom Vaces bribed the Ouarni to put away: one of them died of sickness, and the other escaped to the Slavini (*id.*, iii, 35).

Another reference to these Varini is found in the well-known Scop, or gleeman's tale, where the Waernas are casually mentioned (*vide* Thorpe's edition, line 119).

From this time onwards we do not again meet with a refer-

ence to Varini in this district, and when Adam of Bremen refers to it in the twelfth century the Teutonic Varini had long disappeared and been displaced by the Warnabi, or Warnavi, who were Slaves, and whose name was a geographical and not an ethnic one. I have had much to say about them in the paper on the Obodriti.

What became of the Varini, then, who were neighbours of the Angles? It is not improbable that the greater portion of them shared the fortunes of the latter. We find traces of them in after times in several districts. Wärnsland, or Wärendshäräd, a district of Småland, in Sweden, seems to preserve their name. The Varangar Fiord in Lapland probably does so also. Thirdly, we have a notable colony in Thuringia.

The heading of a well-known code of laws, dating perhaps from the tenth century, is "Incipit lex Anglorum et Werinorum hoc est Thuringorum." This clause has been much debated, but it is now pretty generally agreed that it refers to the laws of two small communities in Thuringia, and assuredly we still find a gau there called Engelin, or Englide (Zeuss, 153, note), while an adjoining gau was called Werina gowe: this was situated on the river Werra. Grimm has pointed out, what is assuredly very curious in our contention, that the fines in these laws are very similar to those in the Salian and Ripuarian, and very different from those in the Alemannic and Bavarian codes.

These laws are apparently referred to in a clause of the Anglo-Saxon laws of Cnut, when in speaking of the weregilds, we read: "Pretium hominis mediocris (*i.e.*, ingenui) quod secundum legem Werinorum (*i.e.*, Thuringorum) est ducentorum solidorum" (*op. cit.*, 420).

We shall have more to say about this code in our next paper on the Angli.

We may take it, therefore, as probable that a section of the Varini, with some Angles, settled in Northern Thuringia. A much more important body emigrated westwards, however, and was settled in the sixth century about the mouth of the Rhine, as is clear from the statements of Procopius and Fredegar. The former has a curious notice of them. He tells us that the soldiers who inhabited Brittia (*i.e.*, Great Britain; he seems to refer to Ireland as Britannia) had a struggle with the Varini. He says the Varini lived beyond the Ister (*i.e.*, the Danube), and reached to the Northern Ocean, and to the Rhine, which separated them from the Franks and other neighbouring tribes . . . not long before, the Varini were ruled over by Hermegiselus. Wishing to strengthen his position he married the sister of Theodebert, the King of the Franks, his former wife having

died. She had left an only son, called Radiger, whom his father had married to a British damsel (whose brother was then King of the Angles), and had given him a large gift of money as a dower. Once, when riding in the fields with some of his grandees, he saw a bird sitting on a tree and vociferously clamouring. Whether he understood what the bird said or not, he said to the bystanders that he would die forty days later, and that this was what the bird meant to say. Thereupon he went on to say further: "I deem this a providential intervention that you should live in the greatest safety. For this reason I married a Frankish wife, and wedded my son to a British damsel. Now, inasmuch as my life is to be a very short one, and as I have had neither male nor female offspring from this wife, nor has my son consummated his marriage, I suggest a course which, if you deem right, then confirm and carry it out. I deem it more profitable for the Varini to ally themselves with the Franks than with these islanders: trade with the Britons is difficult and precarious, but between the Varini and the Franks there is only the Rhine. The latter are also in a position to do us harm or treat us well as they please. Whereupon I council that my son's alliance with the British damsel should be reversed, and that she should receive the marriage gift already paid in lieu of her loss, and that my son Radiger should, as our law permits, marry his mistress."

Having said this he, forty days after, died; and his son having succeeded him asked counsel from the grandees, and in accordance with his father's wish put away his British spouse and married his mistress. The former was much enraged; for, says Procopius, among these peoples so much is chastity valued that a woman is deemed no longer a virgin who is merely contracted in marriage. She first sought reparation by means of some of her people, whom she sent to inquire why the marriage had thus come to an untimely issue. Getting no redress, the Angles collected 400 ships, and, according to Procopius, put an army of 100,000 men (?) upon them, and set sail for the country of the Varini, the armament being commanded by one of her brothers, who was not the king. Procopius then goes on to make statements about the islanders, some of which are evidently due to profound ignorance of them. He says they were the bravest among the barbarians known to him; that they fought on foot and not on horseback; in fact, they did not know what a horse was like, for that animal did not live on the island, and that when their envoys or others were on their way to the Romans or Franks, and had to travel on horseback, they did not know how to mount, but had to be helped up and down by others. In the same way the Varini were not horsemen, but fought on

foot alone. All on board plied the oars, and the ships were impelled entirely by rowing, and bore no sails.

The Angles having landed, the Varini were defeated in a great battle, and fled with their king. Meanwhile, the injured maiden remained with an escort near the mouth of the Rhine; she received her victorious countrymen on their return from pursuing the Varini with bitter reproaches, inasmuch as they had not captured Radiger. She ordered them to return, and they then proceeded to scour the country, and eventually found Radiger hiding in a wood, and carried him off to their martial mistress, before whom he stood trembling, expecting instantly to be executed. But she, deeming herself sufficiently avenged, asked merely why he had broken off their engagement and married another. He pleaded his father's will and the counsel of his grandees, and offered to make reparation by marrying her. To this she assented. He was accordingly stripped of his chains, and the sister of Theodebert having been sent home, Radiger married the Anglian princess (Procopius de Bella Gothico, iv, 21). This is generally dated in the year 551 (Stritter, iv, 416–423).

Three years later, namely, in 554, Agathias mentions that Vacamo, a warlike person, with his son Theodebald and the Uarni who were with him, went to the emperor in Italy (*id.*, 423).

Fredegar, writing of the year 595, describes the virtual extermination of this colony of Varni. He tells us how in that year Childebert fought bravely against the Varni, who tried to break the yoke, and such a massacre ensued that few survived (*op. cit.*, ed Guizot, 181). It is not improbable that the name Wieringerwaard on the Dutch coast, is a relic of this colony of the Varini. They were not the only Varni or Varini on the borders of the North Sea, and, as is natural, we find numerous traces of them in Britain. Their name seems preserved in Warrington, in Lancashire and Buckinghamshire, and at Werrington in Devon and Northamptonshire, while their royal race of the Billings is found in no less than thirteen places, as Billinge, Billingham, Billingley, Billington, and Billinghurst (Taylor, "Words and Places," 136).

My good friend Dr. Angus Smith has reminded me that we also have traces of the Varini, with the primitive form of the name, in such places as Varengeville and Varennes, in France. We thus, if our contention be right, can trace the progress of the Varini westwards by two streams—one a northern stream, which carried them where Low German was the only Teutonic language spoken, and where consequently they preserved their original name, and the other which carried them through a district where Platt-Deutsch has been converted into Hoch-Deutsch,

and where consequently the name has been sophisticated, and has assumed a High German form.

Before we collect the various passages relating to the history of the Franks, we must say a few words about the *Liti*, or *Læti*, by which name they were sometimes known.

Waitz thinks the name *Liti* was not in use in the earlier time among the Bavarians and Alemanni. The name occurs in some later titles of the Alemannic laws, but this he derives from Frank sources.

The name is not to be found in Tacitus, and it seems clearly not to be of German origin, but introduced by the Romans, and derived from *lito*, a debt, referring to the stipendiary character of the services of the tribes, who were allowed to settle within the borders of the empire, and were granted lands to settle upon on condition of rendering military service for them.

Maurer, in his "Der Frohnhöfe in Deutschland," p. 12, says:—Between the free and the unfree, or slaves, stood a third class, variously called *Liti*, *Læti*, *Lazzi*, or *Aldioni*. This class dates from Roman times; at least, as early as the third century, the Romans employed their Germanic neighbours to guard the frontiers, to plough their lands, tend their cattle, and recruit their armies. Thus we read: "Omnes jam barbari vobis arant, vobis jam serunt, et contra interiores gentes militant. Aruntur Gallicana rura barbaris bobus—frumento barbarico plena sunt horrea" (Flavius Vopiscus, Probus, 14, 15; Maurer, *op. cit.*, 13). The Romans also employed in their service whole tribes, or sections of tribes, of barbarians under their own commanders, who were styled *præpositi* or *rectores*. These bodies were called *gentiles*, and in some cases (Maurer says when they were of German, Celtic, or Gallic origin, but this is doubtful) they were called *læti*, *leti*, or *letoi* ("Th. de Veteranis," vii, 20, ann. 369, 400; Ammianus Marcellinus, xvi 11, xx 8, xxi 13; Jornandes, xxxvi; Zozimus, ii, 54; Eumenius, "Panegyr, Const.," xxi; Maurer, *id*).

That *læti* and *liti* were forms of the same word appears from a deed of the year 1377, where we read, "Vocantur vulgariter in illo Theutonico Laten, et inibi in Latino Litones"; while an ancient gloss quoted by Graff explains *litus* by *laz* (*id.*, note 95). The word occurs with the forms *liti*, *lazzi*, *lazi*, *lassi*, *lati*, *luti*, or *leuti*, in various Saxon and Westphalian diplomatic documents; and in later mediæval times as *Lassen*, *Laten*, *Latelude*, and *Litones;* in the laws of Ethelbert as *læt*. It also occurs in the Salian and Ripuarian laws; in a Hessian breviary of the beginning of the ninth century; in several documents relating to lands near Darmstadt and on the Rhine; in a document of the year 706, relating to the abbot of Echternach, near Treves;

and in one relating to Fulda (*id.*). They are also named in the Burgundian laws, in those of the Frisians, and apparently all over the Frank Empire; also among the Bavarians, Alemanni, and Lombards. Among the Bavarians, while they are sometimes called *liti*, they are more often called *barscalci, barscalki, parscalci, parskalki, parscalchi*, or *parscalhi*. Among the Alemanni the *liti* were sometimes called *parones* or *barones*. "Mancipios tres et parones quatuor"—*vide* a deed of the year 744, quoted by Neugart (*id.*, 28). Among the Lombards they were sometimes called *Aldiones* or *Aldii*: "Aldiones vel Aldianæ . . . ea lege vivunt in Italia . . . qua fiscalini vel lites vivunt in Francia."—"Lev. Lom.," iii, 29, ch. 1 (Maurer, 18, note 29).

Waitz says the name is not found in the laws of the Goths nor their related tribes (Deutsche Verfassung, &c., i, 176), nor are they named in the laws of the Thuringians (*id.*, 176–7, note 4).

It is clear that both *Gentiles* and *Læti* were generic and not specific names applied to various tribes, as is shown by Zozimus and others, both ancient and modern writers. This is best shown by the old laws, as for instance, "Quisquis igitur lætus Alemannus, Sarmata vagus," &c. ("Th. de Veteranis," vii, 20), and in the *Notitia*, where we read, in chapter xl, of the "præfectus Lætorum Teutonicianorum; præf. Lætorum Batavorum et gentilium Suevorum; præf. Lætorum Francorum; præf. Lætorum Actorum; Epuso Belgicæ Primæ; præf. Lætorum Nerviorum; præf. Lætorum Bataorum, Nemetacensium; præf. Lætorum Batavorum Contraguinensium; præf. Lætorum Lagensium" (Maurer, *id.*, note 84). We read of their holding land: "Terrarum spatia quæ gentilibus; hæc spatia vel ad gentiles" (C. Th. de terris limit. vii, 15, ann. 409); "terræ læticæ" (*id.*, de Censoribus, xiii, 11, ann. 399); and therefore it is very probable they paid tax or rent, or gave military service for it. Jakob Gothofridus, Grimm, and Gaupp identify these early *Læti* with the later *Liti* and *Lati*, and identify them with the class known in later times as "Hörigen" (Maurer, 14). They were found, however, among those who were not subject to the Romans, as among the Saxons ("Annales Laures." ad. ann. 780), "tam ingenuos quam et lidos"; again, in the Saxon capitulary of the year 789, "nobiles et ingenuos similiter et lidos" (Chron. Moissiac ad. ann. 780); "tam ingenuos quam et lidos" (Maurer, 14, note 92). The name *Liti* answers to the *Coloni* and *Liberti* of Tacitus, and in later times the names are used indifferently (*id.*, 15). Maurer argues against Walter that the great bulk of the *Liti* were not derived from those who were once free and had lost their liberty. He on the contrary says the change from one class to another was infrequent. He cites two instances only—one of a noble becom-

ing a *litus*, from a document of the ninth century, "Vulfric quondam nobilis solidum nunc noster litus est," and another in a deed of the year 800, "sunt aldiones duo, qui propter hostem ad ipsam villam se tradiderunt" (*id.*, 15, notes 94, 95). The greater part of the *Læti*, he says, sprang from conquered tribes. Thus in the "Annales Lauriss" ad. ann. 77 we read: "Multitudo Saxonum baptizati sunt, et secundum morem illorum omnem ingenuitatem et alodem manibus dulgtum fecerunt" (*id.*, note 96). This is confirmed by the legends preserved by Meginhart (Pertz, xi, 675), and by Adam of Bremen ("Hist. Eccles.," i, 4): "Qui Saxones eam (terram) dividentes, cum multi ex eis in bello cecidessent, et pro raritate eorum tota ab eis occupari non potuit *partem illius*, eam maxime qua respicit orientem, *colonis tradebant*, singulis, pro sorte sua, *subtributo* exercendam"; also Witukind (Pertz, v, 424): "Saxones igitur possessa terra summa pace quieverunt, societate Francorum atque amicitia *usi parte quoque agrorum cum amicis auxiliaris aut manumissis distributa* reliquias pulsæ gentis tributis condempnaverunt: unde usque hodie gens Saxonica triformi genere at lege præter conditionem servilem dividitur" (Maurer, *op. cit.*, 98). This view is doubtless the correct one, and wherever we find *liti*, or an equivalent class among the Germans, we may be sure we are in the presence of the conquest of one tribe by another.

In South Germany the conquered race was the old Roman population, as Waitz has pointed out. The Roman population was probably, at the time of the invasion of the German tribes, in a position of dependence, and did not consist of free landowners, and did not largely change its status. The colonists were called *tributarii*, or *tributales*, as was also their land. Thus we find them mentioned in the Salzburgh *Notitiæ donationum* and the *Congestum Arnonis* as "tributales Romanos . . . colonos, tributarios; Romanos et eorum tributales mansos; *de Romani* tributales homines 80 cum coloniis suis." Paul the Deacon (xi, 32) says of the Romans, "tributarii efficiuntur" (Waitz, ii, 163, note 1). These *tributales* are contrasted with the servile class: "mansis inter servos et tributales necnon et exercitales homines" (Noldon, xxxiv); "servos manentes in coloniis quatuor et alios tributales manentes in coloniis 10" (Cod, "S. Petri," iv, 293; Waitz, *op. cit.* ii, 163, note 2).

As we have seen, the class does not occur in the Gothic laws (*id.* i, 176), nor in the laws of the Thuringians (*id.*, 176–7, note 4), making it very probable it was originally of Roman inception.

Aldiones, or *Altones*, also occurs in Bavarian deeds of the eighth century, and were terms also used in Saxony (*id.*, 18, notes 30, 31). They stood between the freemen and the slaves—differing

from slaves in that they enjoyed personal freedom. Thus in an old gloss given by Lindenbrog, "Aldius statu liber," and in a definition from old Lombard sources, "Aldia, id est de matre libera nata" (*id.*, 19, note 33), and again in another definition in a deed of 825, "Barshalki (liberi homines qui dicuntur barscálci);" and the word is used interchangeably with *ingenui* and *liberi:* we read of slaves being freed as "*Liti, Aldioni*, and *Frilazzi*" (*id.*, 19, notes 38–40). In early times, if the *Liti, Aldioni*, or *Lazzi* married with slaves, they were put to death (Pertz xi, 675). In later ones, if an *Aldia* or *Lidia* married a slave she lost her freedom. "Si aldia aut libera—servum maritum tulerit libertatem suam amittet" (L. Rothar, Maurer, xx, note 42). By the same law, however, the children followed the offending hand. These mixed marriages became more and more frequent towards the beginning of the ninth century, which tended greatly to the mixture of the different kinds of *coloni.* Their marriages *inter se* were as valid as those of free people. They were not to marry, however, without the consent of their lords, except the royal *liti* (Maurer, *op. cit,* xx), although when they did so the marriage was deemed valid. As freemen they bore arms and accompanied their lords to war, unless they were granted special immunities: "Si nuntius venerit ut ad succurendum debeant venire et hoc neglexerit—si litus fuerit solidos 15 componat" (Capt. of 802); "Homines ecclesiæ, liti, et coloni, in expeditionem ire non cogantur . . . quod homines tam liberos quam et lutos in hostem ire compellant . . . ab expeditione hostile tam de litis quam de ingenuis hominibus." This was also the case with the *Aldiones:* "Sunt aldiones duo, qui propter hostem adi psam villam se tradiderunt" (Maurer, 20, note 48). In the old Saxon polity they, like the *Edlingi* and *Frilingi*, had the right of audience at the general assembly, and of electing twelve of their body to serve there (Hucbald, in Pertz, xi, 361). When Charlemagne defeated the Saxons in 780, he took hostages both from the *ingenui* and the *liti.* With the right of bearing arms they had that of *faida* (*Fehdé, i.e.*, private war) and of blood revenge (*inimicitia propinquorum*), and claimed a weregild double that of slaves and one-half that of freemen. As the relatives of the dead *litus* shared in his private feud, so they also shared the weregild, not only among the Frisians, Bavarians, and Lombards, but also most probably among the Saxons (Maurer, xxi). As free people they had to answer for their ill-deeds, while masters were answerable for those of their slaves. They had their own special weregild, and were allowed to clear themselves by their oath, with or without compurgators, and to appeal to the test of a judicial duel, when they were unwilling to submit to the ordeal by fire or water; while slaves could only produce the oath of

their lords, and were obliged to submit to the ordeal by fire and water (*id.*, 21). As free people they also had their own property (*propria pecunia*—"Omne peculiare, res liti, substantia," &c.), and could employ slaves and even free people (*liberi homines*) and *Liti* in their service. They differed from the fully free in that they had a master (*dominus*) senior protector or patron (*patronus* or *muntherro*). They were not the property of their lord, however, like the slaves, but only under his protection and shelter (*mundium*). They were thence called *mundiali*. They were not answerable for their master's misdeeds, except they shared in the order he had given or freely undertook the responsibility. He could, however, be summoned to appear at the instance of the *Litus*: "Si quis a lido suo pro aliqua causa in ratione fuerit inventus, super noctes 14 ipsum lidum ad placitum adducat, si senior suus in ipso comitatu est. Si in alio comitatu est, ipse lidus suum seniorem ad placitum adducat" (*id.*, 23, note 77). He might free an accused *Litus* by his own oath from the ordeal, and by the payment of the composition, from the penalty of death. If, however, he did not wish to be responsible for him he could release the accused *Litus* and other *protegés* from his protection (*dimittatur a domino—maleficos a suo obsequio secure*), and leave him to the blood revenge of the family. Among the Lombards alone were the lords bound to purge their *aldioni* by oath or battle (*per sacramentum aut per pugnun*), or to pay the composition (*compositio*). The *Liti*, like the freedmen, had to pay a specified tax called "litmonium," or "lidmonium": "Isti (*liti*) solvunt denarios iv de litmonio" (*id.*, 34, note 83), and on their death a portion of their assets and their weregild was paid to the lord. Many of the *Liti*, *Aldioni*, and other *protegés*, had for the most part their own property. Speaking of one of several families of *Liti*, it is said, "Isti omnes habent mansos et censum debitum persolvunt" (Dronke, Trad. Fuld., pp. 48, 49, 51). Of others it is said, "Isti non habent mansos nec hubas vel beneficias sed de proprio corpore debitum censum persolvunt" (*id.*, 24, note 85). Those who held property were tied to the land, and could be transferred with the ground. This class of *Liti* was, in fact, something like the serfs in Russia. In order to change from this condition to that of freemen they required to be emancipated. Marriage between *Liti* and freemen was in early times punished by death. In later times, if a free-woman (*ingenua*, or *libera*) married a *Litus* wilfully, she lost her freedom or was fined. The children of a freeman who had married an *Aldia* were not free-born and legitimate: they had therefore no right of inheritance.

Such were some of the surroundings of the status of a *Litus*. It helps us to bridge the history of Western Europe from the

time of the Roman occupation to that of the final domination of the Germanic tribes, to find them all along the borders of the empire settling down, first as military colonists, under the shadow of the great Empire, and forming an irregular portion of its subjects, with an art culture having very much the same facies, whether we test it in Burgundian graves or those of Kent, and gradually, under their own chiefs, and after they had adopted Roman institutions in a large measure, and occupying the country as their own when the hands of the Imperial officials became too feeble to govern them. We will now give a conspectus, so far as we can, of the various occasions in which the Franks are named, from the earliest times to the death of Chlovis.

[*Section II of Part VI will be published in the next volume.*]

ANNUAL GENERAL MEETING.

JANUARY 23RD, 1883.

JOHN EVANS, Esq., F.R.S., *Vice-President, in the Chair.*

The notice convening the meeting was read by the Director.

The Minutes of the last Anniversary Meeting were read and confirmed.

The CHAIRMAN then declared the ballot open, and appointed Captain BEDFORD PIM, R.N., and Mr. W. S. W. VAUX, F.R.S., scrutineers.

Mr. F. G. H. PRICE, the Treasurer, read his report for the year 1882, as follows:—

TREASURER'S REPORT.

The Annual Statement of Receipts and Payments and the Balance Sheet are submitted herewith.

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

Receipts and Payments for the Year ending 31st December, 1882.

RECEIPTS.

	£	s.	d.	£	s.	d.
Balances, January 1st, 1882:						
At Bankers'	250	17	8			
In Office	0	17	11			
				251	15	7
Subscriptions:						
Paid to Messrs. Robarts & Co.	76	13	0			
" Collector	372	15	0			
" " Life Compositions	89	5	0			
" " due 1881	44	2	0			
" " in advance	6	6	0			
				589	1	0
Illustration Fund:						
E. H. Man, Esq.				21	16	0
Anthropological Club				4	7	3
Sale of Publications:						
Messrs. Trübner & Co.	85	11	6			
Messrs. Longmans & Co.	1	15	5			
Office:						
Journals	1	15	9			
Other Publications	2	15	0			
				91	17	8

PAYMENTS.

	£	s.	d.	£	s.	d.
Rent, one year to September, 1882				130	0	0
Printing:						
Journal, Nos. 35, 36, 37, 38, 39	245	17	4			
Miscellaneous	62	4	6			
				308	1	10
Lithography, &c.				133	16	1
Salaries and Collector's Commission				170	5	6
Postages:						
Journal	19	4	5½			
Letters and Post Cards	16	17	9			
Book Parcels and Circulars	3	4	2½			
				39	6	5
Advertising				7	6	0
Office:						
Stationery, &c.	6	15	2			
Receipt Stamps, &c.	2	6	0			
Insurance	0	18	0			
Carriage of Parcels	2	10	9			
Miscellaneous	2	11	10½			
				15	1	9½

DIVIDENDS:						
Quarter on £1,060 1*s.* 10*d.*, 3½ per. cent stock	9	1	8			
Three quarters on £1,099 12*s.* 10*d.*, 3½ per cent stock	28	2	11			
				37	4	7
				£996	2	1

HOUSE:						
Mrs. Ayres, gratuity for 1881	15	0	0			
" coals and lights	5	11	0			
" assistance, &c	3	19	0			
" refreshments at Evening Meetings	21	0	0			
				45	10	0
PURCHASE of £39 11*s.* Metropolitan 3½ Per Cent.				42	0	0
BALANCES:						
At Bankers'	102	13	6			
In Office	2	0	11½			
				104	14	5½
				£996	2	1

We hereby certify that we have examined the accounts and vouchers of expenditure, and have found the same correct.

(Signed) M. J. WALHOUSE, J. E. KILLICK, } *Auditors.*

January 1883.

APPROXIMATE STATEMENT OF LIABILITIES AND ASSETS ON JANUARY 1ST, 1883.

LIABILITIES.	£	*s.*	*d.*
Sundry Creditors, namely:—			
Printers' account	128	0	0
House expenses	25	19	5
Rent	32	10	0
Carpenter's account	18	9	6
Balance in favour of the Institute	3,728	2	11½
	£3,933	1	10½

	£	*s.*	*d.*	ASSETS. £	*s.*	*d.*
Balance in Bank, 1st January, 1883	102	13	6			
" at Office	2	0	11½			
				104	14	5½
Subscriptions in arrear				365	10	0
£1,099 12*s.* 10*d.*, Metropolitan Consolidated Stock at 105½				1,162	17	5
Estimated value of Library, stock of publications, office furniture, &c.				2,300	0	0
				£3,933	1	10½

It will be interesting to compare the ordinary income of the Institute during 1881 with that of the previous year:—

	1881.			1882.			Increase.		
	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Annual Subscriptions	463	1	0	521	17	0	58	16	0
Compositions	63	0	0	89	5	0	26	5	0
Sales	87	8	10	91	17	8	4	8	10
Dividends	35	15	2	37	4	7	1	9	5
Total..	649	5	0	740	4	3	90	19	3

This statement thus shows an increase, in the annual income, of £90 19*s.* 3*d.*

The sum of £42 has been invested in the purchase of £39 11*s.* Metropolitan Stock, so that the Institute now possesses £1,099 12*s.* 10*d.*, 3½ per cent. Metropolitan Stock, the present value of which is £1,162 17*s.* 5*d.*

The Anthropological Dinner Club having become extinct, which I trust may be revived at no far distant date, the Treasurer of the Club, Mr. Worsley, handed over to me the sum of £4 7*s.* 3*d.* to be credited to the Institute.

In comparing the expenses under the head of printing and lithography it will be seen that five parts of our *Journal* have been paid for during the year, and that these have been more fully illustrated than usual, which I hope may have the effect of increasing their sale. This it has already done to some extent, as our receipts for sales of publications are in excess of those for 1881.

It should be noted that the sum of £21 16*s.* has been contributed by Mr. E. H. Man, towards the illustration of his paper on the Andaman Islanders.

Our office expenses during the year have considerably diminished. I think we may fairly congratulate the members of the Institute upon having had a favourable year, and it is to be earnestly hoped that the number of members will increase, and that the study of anthropology will become more popular every year.

F. G. H. Price,
Treasurer.

On the motion of Mr. A. H. Keane, seconded by Mr. A. L. Lewis, the Treasurer's Report was adopted.

Mr. F. W. Rudler, the Director, then read the following Report:—

Report of the Council of the Anthropological Institute of Great Britain and Ireland for 1882.

The Council has to report that during the past year the Institute has held fourteen ordinary meetings, the usual Anniversary Meeting, and a special extra meeting at the close of the session. By the invitation of General and Mrs. Pitt Rivers, the meetings of May 23rd and July 11th were held at the President's private residence. In the course of the year thirty-two communications have been submitted to the Institute, of which the following is a list, arranged in the order in which they were read:

1. "On the Entrenchment of the Yorkshire Wolds, and Excavations in the Earthwork called Danes' Dyke at Flamboro'." By Major General Pitt Rivers, F.R.S., *President.*
2. "On the Discovery of Ancient Dwellings on the Yorkshire Wolds." By J. R. Mortimer, Esq.
3. "On the Twelve Tribes of Tanganyika." By Edward C. Hore, Esq., Master Mariner.
4. "Notes on the Napo Indians." By Alfred Simpson, Esq.
5. "Note on a Patagonian Skull." By George W. Bloxam, Esq., M.A., *Assistant-Secretary.*
6. "Note on Aggri Beads." By J. E. Price, Esq., F.S.A.
7. "Analysis of Relationships of Consanguinity and Affinity." By A. Macfarlane, Esq., M.A., D.Sc.
8. "From Mother-right to Father-right." By A. W. Howitt, Esq., F.G.S., and the Rev. Lorimer Fison, M.A.
9. "On the Aboriginal Inhabitants of the Andaman Islands." By E. H. Man, Esq., Part I.
10. "On the Relation of Stone Circles to Outlying Stones or Tumuli, or Neighbouring Hills." By A. L. Lewis, Esq.
11. "Excavations of Tumuli on the Brading Downs, Isle of Wight." By J. E. Price, Esq., F.S.A., and F. G. Hilton Price Esq., F.S.A., *Treasurer.*
12. "Note on the Distribution and Varieties of a Padlock." By Major-General Pitt Rivers, F.R.S., *President.*
13. "The Papuans and Polynesians." By C. Staniland Wake, Esq.
14. "Rites and Customs in Old Japan." By C. Pfoundes, Esq.
15. "On the Aboriginal Inhabitants of the Andaman Islands," Part II. By E. H. Man, Esq.
16. "On the Evidence of Surnames as to Ethnological Changes in England." By J. Beddoe, Esq., M.D.
17. "On the Survival of certain Racial Features in the Population of the British Isles at the present day." By J. Park Harrison, Esq., M.A.
18. "On Systems of Land-Tenure in different Countries." By the Right Hon. Sir H. Bartle Frere, Bart., G.C.B., G.C.S.I., F.R.S., &c.
19. "Nepotism in Travancore." By the Rev. S. Mateer, F.L.S.
20. "The Laws of Madagascar." By G. W. Parker, Esq., M.R.C.P.
21. "On Remains at Cummer, Co. Wexford." By G. H. Kinahan, Esq.
22. "Note on some Egyptian Antiquities." By Villiers Stewart, Esq., M.P.
23. "On some Mexican Terra-Cotta Figures." By Dr. Becher.
24. "On the Aboriginal Inhabitants of the Andaman Islands," Part III. By E. H. Man, Esq.
25. "On the Longevity of Romans in North Africa." By the Right Hon.

Lord Talbot de Malahide, F.R.S., President of the Royal Archæological Institute.

26. "On Neolithic Stone Implements, from Wásá on the Gold Coast." By Captain R. F. Burton and Commander V. L. Cameron, R.N., C.B.

27. "Note on the Egyptian Boomerang." By General Pitt Rivers, F.R.S., *President.*

28. "Exhibition of Bushman Drawings." By M. Hutchinson, Esq., with Note by W. L. Distant, Esq.

29. "Some Apparatus for testing the Delicacy of the Muscular and other Senses." By Francis Galton, Esq., F.R.S.

30. "On the Language and People of Madagascar." By Dr. G. W. Parker.

31. "Note on some Flint Implements and Flakes from Cape Blanc Nez (near Calais)." By A. L. Lewis, Esq.

32. "On the Australian Class Systems." By A. W. Howitt, Esq., F.G.S.

Between the 1st January and the 31st December, 1882, the members have received four Nos. of the *Journal*, namely, Nos. 38, 39, 40, and 41. These contain 585 pages of letterpress, 37 plates, and a large number of folding tables. The Council would not have felt justified in authorising the issue of a *Journal* so freely illustrated, had not the expense of several of the plates been generously defrayed by the President and by Mr. E. H. Man.

During the year twenty-four new Members have been elected into the Institute, and one Member who resigned last year has rejoined.

The former and present state of the Institute with regard to the number of Members are shown in the following Table:—

	Honorary.	Compounders.	Annual Subscribers.	Total.
January 1st, 1882 ..	51	91	313	455
Since elected	..	+2	+23	+25
Since deceased ..	−2	−1	−2	−5
Since retired	..	..	−9	−9
January 1st, 1883 ..	49	92	325	466

It will be seen from this Table that the Institute has gained during the year twelve Annual Subscribers and one Compounder. The Council regrets to report that the Institute has lost, through death: Mr. Charles Darwin, F.R.S., and Dr. Pruner Bey, from the list of Honorary Members; and Mr. Horatio Love, Mr. M. Moggridge, F.G.S., and Mr. J. Moore, among its Ordinary Members.

Mr. CHARLES ROBERT DARWIN had been an Honorary Member of the Institute from the time of its formation in 1871, and had previously been an Honorary Fellow both of the Ethnological and of the Anthropological Society. So many notices of Mr. Darwin's life have recently appeared that it is unnecessary in this place to dwell upon its details. Born on February 12th, 1809, he was the son of Dr. R. W. Darwin, a physician of Shrewsbury. It is noteworthy that his grandfather on the one side was the famous Erasmus Darwin, and on his mother's side the equally famous Josiah Wedgwood. Mr. Darwin received his early education at the Shrewsbury Grammar School, and at the University of Cambridge; and it was under the influence of Professor Henslow, at Cambridge, that his love of natural science was first developed. In 1831 he started with Captain Fitzroy on the memorable voyage of the "Beagle," and during his five years of exploration laid the foundation of the great work of his life. It is needless in this exceedingly brief notice to enumerate the long list of Mr. Darwin's well-known writings. The unparalleled effect which these writings have produced in every department of natural science has been especially marked in Anthropology. It is true that our *Journal* does not contain any contribution from his pen; but he took a deep interest in the work of the Institute, and frequently quoted from our publications in his two great anthropological works, "The Descent of Man" and "The Expression of the Emotions in Man and the Lower Animals." Mr. Darwin died on the 19th of last April, and the Council of the Institute, at their Meeting on the 25th of that month, passed a vote of condolence with the family, while at the Evening Meeting of the same date a brief tribute was publicly paid to his work and character (see p. 229). A deputation appointed by the Council attended Mr. Darwin's funeral, which took place in Westminster Abbey, on April 26th.

Dr. PRUNER BEY, who died at Pisa on September 29th, was an Honorary Member of the Institute from the time of its formation, having been elected an Honorary Fellow of the pre-existing Anthropological Society, in 1863. At that time he occupied the position of President of the corresponding Society in Paris, and to the *Bulletins* of that Society he contributed a large number of valuable papers on Craniology and other departments of Physical Anthropology. The pages of our "Anthropological Review" also contain some of his writings—notably an essay on Human Hair as a race-character.

Mr. MATTHEW MOGGRIDGE, formerly of Swansea, was elected into the Ethnological Society in 1869, and passed into the

Anthropological Institute on its foundation. Taking a keen interest in several branches of natural science, he was drawn towards the objects of this Institute, and was at one time a familiar attendant at our meetings and a frequent contributor to our discussions. Towards the latter part of his life he resided much at Mentone, where he copied the rock-inscriptions of the neighbourhood. Many of our members will recollect his communications to the Anthropological Department of the British Association, in 1871 and 1872, with reference to the human remains found in the Mentone Caverns.

The following is a list of the names of donors to the Library during the past year:—

Professor Agassiz; Colonel Almonte; Dr. A. Bastian; G. Bertin, Esq.; S. E. B. Bouverie-Pusey, Esq.; Mrs. Brash; Hyde Clarke, Esq.; R. Cust, Esq.; W. L. Distant, Esq.; John Evans, Esq.; A. Featherman, Esq.; Dr. Robert Fletcher; Albert S. Gatschet, Esq.; Dr. Guy; F. F. Hilder, Esq.; Dr. W. J. Hoffman; W. J. Knowles, Esq.; Lieutenant G. Kreitner; M. Terrien de Lacouperie; T. W. Leys, Esq.; Sir John Lubbock; Dr. A. B. Meyer; D. C. F. Moodie, Esq.; Herr M. Neumayr; Dr. Giustiniano Nicolucci: Dr. Theodor Pœsche; J. W. Powell, Esq.; F. W. Putnam, Esq.; Signor E. Regalia; Signor A. Rubbiani; F. W. Rudler, Esq.; Professor Schaaffhausen; Dr. W. Sharpe; Rev. J. Sibree; Lieutenant R. C. Temple; Professor R. Virchow; George E. Waring, jun., Esq.; Captain George M. Wheeler; W. Whitaker, Esq.; The Government of Madras; The Government of New Zealand; The Government of the Punjab; The Secretary of State for India; The Secretary of the Treasury of the United States; Le Sécrétaire Générale de Quatrième Congres International d'Hygiène et de Démographie; Académie Impériale des Sciences de St. Pétersbourg; Akademia Umiejetnosci w Krakowie; American Association for the Advancement of Science; American Museum of Natural History; American Philosophical Society for Promoting Useful Knowledge; Anthropologische Gesellschaft, Wien; Asiatic Society of Bengal; Asiatic Society of Japan; Batavinasch Genootschap van Kunsten en Wetenschappen; Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte; Berwickshire Naturalists' Field Club; British Association for the Advancement of Science; Ceylon Branch of the Royal Asiatic Society; Deutsche Gesellschaft für Anthropologie, Ethnologie und Urgeschichte; Devonshire Association for the Advancement of Science, Literature, and Art; East India Association; Epping Forest and County of Essex Naturalists' Field Club; Geographical Society of the Pacific; Geological and Natural History Survey of Canada; Geological Society of Glasgow; Geologists' Association; Hungarian Academy; K.K. Geographische Gesellschaft, Wien; Kaiserliche Akademie der Wissenschaften, Wien; Kongelige Danske Videnskabernes Selskab: Kongliga Vitterhets Historie och Antiqvitets Akademien, Stockholm; Koninklijke Akademie van Wetenschappen, Amsterdam; Leeds Philosophical and Literary Society; Madagascar Committee; National Association for the Promotion of Social Science; Naturhistorisch-Medizinische Verein, Heidelberg; New Zeland Institute; North China Branch of the Royal Asiatic Society; Oberhessische Gesellschaft für Natur-und Heilkunde; Offenbacher Verein für Naturkunde; R. Accademia dei Lincei, Roma; Royal Asiatic Society; Royal Colonial Institute; Royal Dublin Society; Royal Geographical Society; Royal Historical and Archæological Association of Ireland; Royal Institution of Cornwall; Royal Society; Royal Society of Edinburgh; Royal Society of Literature; Royal Society of New South Wales; Royal Society of Tasmania; Royal Society of Victoria; Royal United Service Institution; Smithsonian Institution; Sociedade de Geographia de Lisboa; Sociedade de Geographia de Mocambique; Società Africana d'Italia;

Società Italiana di Antropologia, etnologia e psicologia comparata; Société d'Anthropologie de Lyon; Société d'Anthropologie de Paris; Société de Borda, Dax; Société des Sciences Naturelles, Neuchatel; Société Impériale des Amis d'Histoire Naturelle, Moscou; Société Impériale des Naturalistes de Moscou; Society of Antiquaries; Society of Antiquaries of Scotland; Society of Arts; Society of Biblical Archæology; State Board of Health, &c., Massachusetts; University of Durham, College of Medicine; University of Tokio; Verein für Erdkunde, Metz; The Editor of the American Antiquarian; The Editor of the Bulletino di Paletnologia Italiana; The Editor of the Correspondenz-Blatt; The Editor of the Field Naturalist and Scientific Student; The Editor of the Journal of Mental Science; The Editor of the Matériaux pour l'Histoire de l'Homme; The Editor of Nature; The Editor of the Revue d'Anthropologie; The Editor of the Revue d'Ethnographie; The Editor of the Revue Politique et Littéraire; The Editor of the Revue Scientifique; The Editor of the Scientific Roll; and The Editor of Timehri.

It was moved by Dr. GARSON, seconded by Mr. KILLICK, and carried unanimously, that the Report of the Council be adopted.

The CHAIRMAN, having been called upon to preside at only a very brief notice, delivered an extemporaneous address, of which the following is an abridged report:—

ADDRESS. By Mr. JOHN EVANS, F.R.S.

After expressing regret at the President's unavoidable absence on this occasion, the Chairman briefly reviewed the work of the Institute during the past session. In this survey he dwelt especially on the valuable papers which had been contributed by Mr. E. H. Man, whose careful observations during a residence of eleven years in the Andaman Islands had enabled him to present to the Institute a fuller and more accurate account of the inhabitants than had been given by any previous writer. It was satisfactory to note that in the preparation of his papers on the Andamanese Mr. Man had been mainly guided by the instructions in the volume of "Notes and Queries on Anthropology," and in fact these papers might almost be regarded as the first-fruits of that useful work. Allusion was also made to Dr. Parker's papers on the Malagasy, which deserved recognition, inasmuch as the author had resided for many years, as a medical man, among the people whom he described. Dr. Macfarlane's "Analysis of Relationships of Consanguinity and Affinity" was likewise referred to as a communication of much

originality; and it was believed that several other papers which had been read during the year would prove of substantial value to students of Anthropology.

Mr. Evans then spoke of the loss which the Institute had suffered during the year by the death of several of its members, and took occasion to pay an eloquent tribute to the genius of Mr. Darwin. In noticing the general progress of Anthropology attention was called to the recent appearance of Dr. Hamy's "Revue d'Ethnographie," a periodical which promised to be a useful addition to anthropological literature, and thus deserved the good wishes of the Institute.

Passing to the main subject of his address, the present state of our knowledge of the Antiquity of Man, Mr. Evans referred to the Conference which was held at the Institute during his Presidency in 1877, when the subject was discussed so far as evidence was then available. The age of the beds in which Mr. Skertchly had found flint implements near Brandon was still an open question. It might be fairly doubted whether it could be satisfactorily established that flint implements had been discovered in brick-earth that passed directly beneath undisturbed Chalky Boulder Clay. Professor Boyd Dawkins, however, was disposed to believe that man existed in East Anglia before the Upper Boulder Clay had ceased to be deposited. According to this observer the earliest indisputable evidence of man's presence in this country consisted of certain flint flakes derived from the Lower Brick-earths of Crayford and Erith, which are Mid-Pleistocene deposits, the exact age of which is doubtful, some geologists regarding them as inter-glacial and others as pre-glacial. The palæolithic implements from the river-drifts of the South of England are probably in most cases of post-glacial age, notwithstanding Professor James Geikie's assumption of a far higher antiquity. In some cases they have evidently been formed from ice-borne boulders.

Several recent discoveries bearing on palæolithic man were then noticed, and reference specially made to the work of Mr. Worthington Smith, in the gravels of Hackney, and of Mr. Flax-

man Spurrell at Crayford. It was interesting to note that at the latter locality a flint implement had been found in association with many of the flakes which had been chipped off in the course of its preparation, so that by re-attaching the flakes to the implement Mr. Spurrell had been enabled to restore with some approach to completeness the original block of flint which palæolithic man had worked on this very spot.

Many authorities, not content with carrying the antiquity of man back to pre-glacial times, profess to have discovered proofs of his existence in deposits of Tertiary age. Geologists include under the term "Tertiary" all the strata which extend from the top of the Chalk to the Norwich Crag. The uppermost Tertiary beds are known as Pliocene; those next in descending order as Miocene; and the lowest as Eocene. Relics of human workmanship have been reported from deposits which have been referred to the Pliocene and Miocene periods; but it may be doubted whether any of these reported discoveries rest on a thoroughly substantial basis. Professor Cocchi has cited the occurrence of a human skull with flint implements at Olmo, near Arezzo, in Italy, as a proof of the existence of Pliocene man; but these implements are unquestionably of neolithic type, and it is probable that the ground in which they occurred had been disturbed. Considerable doubt also surrounds "the fossil man of Denise," who was supposed by M. Aymard to have been buried beneath the volcanic products of a Pliocene volcano in central France. M. Desnoyers discovered at St. Prest, near Chartres, some worked flints and cut bones in Pliocene gravels, where they were associated with the remains of the Southern elephant (*Elephas meridionalis*). But the cuts on these bones may have been made by the shark or the sword-fish; and the position of the implements is not beyond dispute. So too the cut bones said to have been found in the Pliocene deposits of Tuscany by Mr. Lawley and Professor Capellini are open to the same objections: the cuts do not necessarily indicate human workmanship, and the beds may not have been free from disturbance.

In discussing the alleged discoveries of the relics of man in Miocene strata, Mr. Evans dwelt upon the famous case of the late Abbé Bourgeois, in which worked flints, calcined flints, and cut bones were found in marine deposits below the fresh-water beds known as the "Calcaire de Beauce," at Thenay, near Pontlevoy, in France. The bones were principally those of an extinct species of manatee (*Halitherium*). A fragment of similar bone, likewise notched, had been found by M. Delaunay in Upper Miocene beds at Pouancé, in France. But in none of these cases did the speaker regard the evidence of human handiwork as thoroughly convincing. Flint flakes had also been reported by M. Roujon from Upper Miocene beds near Aurillac, but here the age of the deposit was questionable. Another discovery of similar character was that of M. Ribeiro at Otta, in the Valley of the Tagus, where the deposits were regarded variously as Pliocene and Miocene. Mr. Evans had visited this locality, and had carefully examined the flakes, but these mostly showed only a single bulb of percussion, and had therefore insufficient claims to be cited as absolute proofs of human workmanship. On the whole he considered that English Anthropologists were justified, with the evidence at present before them, in maintaining an attitude of doubt as to the value of the evidence hitherto adduced of the existence of Tertiary Man.

On the motion of PROFESSOR FLOWER, seconded by Mr. HYDE CLARKE, a vote of thanks was unanimously accorded to Dr. Evans for the admirable Address which he had delivered at so short a notice.

The Scrutineers reported the result of the ballot, and the following gentlemen were declared to be duly elected to serve as Officers and Council for the ensuing year:—

President.—Prof. W. H. Flower, LL.D., F.R.S.

Vice-Presidents.—Hyde Clarke, Esq.; John Evans, Esq., D.C.L., F.R.S.; Francis Galton, Esq., F.R.S.; Lieut.-Gen. Pitt Rivers, F.R.S.; A. Thomson, Esq., M.D., F.R.S.; E. B. Tylor, Esq., D.C.L., F.R.S.

Director.—F. W. Rudler, Esq., F.G.S.

Treasurer.—F. G. H. Price, Esq., F.S.A.

Council.—J. Beddoe, Esq., M.D., F.R.S.; S. E. B. Bouverie-Pusey, Esq.; E. W. Brabrook, Esq., F.S.A.; C. H. E. Carmichael, Esq., M.A.; W. Boyd Dawkins, Esq., F.R.S.; W. L. Distant, Esq.; A. W. Franks, Esq., M.A., F.R.S.; Lieut.-Col. H. H. Godwin-Austen, F.R.S.; Prof. Huxley, LL.D., F.R.S.; A. H. Keane, Esq., B.A.; A. L. Lewis, Esq., F.C.A.; Sir J. Lubbock, Bart., M.P., F.R.S.; R. Biddulph Martin, Esq., M.P.; Henry Muirhead, Esq., M.D.; J. E. Price, Esq., F.S.A.; Lord Arthur Russell, M.P.; Prof. G. D. Thane; Alfred Tylor, Esq., F.G.S.; M. J. Walhouse, Esq., F.R.A.S.; R. Worsley, Esq.

It was moved by Mr. PARK HARRISON, seconded by Mr. JAMES HEYWOOD, and carried unanimously, that the thanks of the Institute be given to the retiring President and Members of Council, to the Auditors and to the Scrutineers.

ANTHROPOLOGICAL MISCELLANEA.

To The Editor, "Journal of the Anthropological Institute."

Dear Sir,

Can any of your readers tell me anything about four upright stones which stand on the Clent Hills, near Hagley, Worcestershire? I saw them a few months ago, and was informed by a clergyman whom I met that they were not "Druidical," but had been placed there within the last hundred years or so; still they present the appearance of considerable antiquity, and the friend who told me of their existence says that when he saw them twenty-five or thirty years ago they looked very old; an old countryman whom I met had known them all his life, but knew nothing about the time of their being placed there; I have also heard that the county boundary used to run between the stones, though it does not do so now. Their position is peculiar, and I might have something further to say about them if I could be assured as to their age, so if any of your readers can settle that point I shall be very much obliged to them.

Yours truly,
A. L. LEWIS.

35, Colebrooke Row, N.,
14*th February*, 1883.

Rivers of Life; *or, Sources and Streams of the Faiths of Man in all Lands, showing the Evolution of Faiths from the rudest Symbolisms to the latest Spiritual Developments*. By Major-General J. G. R. Forlong, F.R.G.S., F.R.S.E., M.A.I., &c. London: Bernard Quaritch, 1883. 2 vols., 4to.

The important work of which the above is the comprehensive title cannot fail to attract very great attention, not only in the religious world, but also among anthropologists. The subjects of which the imposing volumes treat are in themselves sufficiently interesting. We have as titles for the chapters of the first volume, "Tree Worship," "Serpent and Phallic Worship," "Fire Wor-

ship," "Sun Worship," and "Ancestor Worship." Each of these subjects is deserving of a separate work to itself, and an ordinary writer would treat of them in that manner. Such a course would not, however, be consistent with the object which General Forlong has in view. The object is not the description merely of certain faiths. It is to show that all faiths have originated in certain ideas which form their common basis, and to trace their development and their mutual reaction throughout the world's history. The lines of that development have been aptly termed Rivers of Life, and these streams are shown on a large coloured chart, seven-and-a-half feet long, "in which are depicted, in several parallel columns, the rise and fall of the various religious ideas, mythologies, and rites which have at any time prevailed among nations. The action and reaction of the several religious forces upon one another, their relation and the migration of races, the growth of nationalities, language, and literature, are here exhibited in chronological order." The chart shows, moreover, "the degrees of intensity manifested at stated periods by any particular wave of doctrine or worship, and the mode in which the tributary streams of mythological or theological thought become in turn absorbed in the central River of Life." The preparation of this chart, and also of the synoptical table at the end of the work, showing the correspondence between the gods and god-ideas of different religions, must have been attended with very considerable labour. They form a large collection of facts and supply a key to the author's system, a short examination of which we now propose to give; first, however, seeing what are the qualifications possessed by him for the carrying out of the important work he has undertaken. Those qualifications are of a unique character, and they cannot be better stated than in the language of a literary gentleman to whom the work was submitted as it passed through the press. He says:—

"The author, a retired officer of the British Indian Service, has devoted the greater part of an active life to the investigation of the religious beliefs of the primitive world, so far as they can be traced from the languages and monuments of antiquity, or from their survivals in the symbols and rites of living creeds. His studies have enabled him to construct a theory of the evolution of faiths, which, if novel and startling, is based upon an accumulation of facts, gathered and put together with an industry and patience which are amazing. One of the most interesting features of the work is the information which it embodies, drawn from living sources, which are generally overlooked or ignored by antiquaries and philologists. General Forlong has habitually made himself master of the local dialects of the various districts in which his lot has been cast. Employed for many years as superintendent of large engineering enterprises throughout our Indian possessions, and always a keen observer of men and facts, he has thus had unusual opportunities of cultivating friendly intercourse with natives of the most varied religious types; while the sympathetic zeal and veneration with which he approached the subject, admitted

him to shrines, or obtained for him instruction in secret mysteries, seldom opened to the mere student of the classical literature of the country. The hints thus acquired by the observation of tribal religions, occult rites, and sacerdotal teaching in actual life, have been followed up by a diligent exploration of ruined temples, pillars, and mounds, and all such traces of a primitive symbolism, which lie scattered over the East and West, as religious fossils underlying the superficial crust of recent theological strata."

The object of the work can be well judged of by its title. Religious systems, or rather the development and spread of the ideas embodied in them, may aptly be called streams of faiths, Like rivers, however, those streams have a beginning, and it is all important to ascertain the sources from which they flow. What then are man's primitive faiths, and to what roots are they to be traced? General Forlong arranges the early "symbolic objects of man's adoration" in the following order:—1st, Tree; 2nd, Phallic; 3rd, Serpent; 4th, Fire; 5th, Sun; 6th, Ancestral. He believes that the "first breathings of the human soul" were manifested under the sacred tree or grove, whose refreshing shade is so highly valued in the East. All nations, particularly the Aryans, have considered tree-planting a sacred duty, and the grove was man's first temple, "and became a sanctuary, asylum, or place of refuge, and, as time passed on, temples came to be built in the sacred groves." If tree-worship had such an origin as is here supposed it ought to be shown in the ideas associated with it. What then are these ideas? General Forlong, after referring to Mr. Fergusson's statement that the tree and serpent are symbolised in every religious system which the world has known, says that the two together are typical of the reproductive powers of vegetable and animal life. The connection between tree and serpent worship is often so intimate that we may expect one to throw light on the other. The Aryans generally may be called tree worshippers, and according to Fergusson they as a rule destroyed serpents and serpent-worshipping races. Yet at Athens and near Rome both those faiths flourished together, as they appear to have done also in many parts of Western Asia. They are intimately associated in the religious notions of many Buddhist peoples. This is shown curiously in the early legends of Kambodia. These are said by General Forlong to present two striking features. "First, a holy tree, which the kingly race, who come to this serpent country, reposed under, or descended from heaven by; secondly, that this tree-loving race are captivated by the dragon princess of the land. It is the serpent king, however, who builds the city of *Nakon Thom* for his daughter and her stranger husband." It is not improbable that Buddhism originated among a people who were both tree and serpent worshippers, although the former became more intimately and at an earlier period associated with its founder.

Let us now see what ideas are symbolised by the serpent. We are told that he is an "emblem of the Sun, Time, Kronos, and Eternity." The serpent was, indeed, the Sun-God, or spirit of the sun, and

therefore Power, Wisdom, Light, and a fit type of creation and generative power. Dr. Donaldson came to the conclusion the serpent always has a phallic signification, a remark which is very gratifying to our author, as it exactly accords with his own experience, "founded simply upon *close observation* in Eastern lands, and conclusions drawn by himself, unaided by books or teachers, from thousands of stories and conversations with Eastern priests and people." The testimony of an actual observer is all important, and we must believe when we are told that the serpent, as the constant early attendant on the Lingam, is the special symbol which veils the actual God. The same may be said, indeed, of tree worship. General Forlong says, "The tree and serpent are the oldest of symbolic faiths, and as these embrace my second, we have thus the three first streams." It is evident, however, that phallic ideas are at the foundation of both tree and serpent worship, and therefore, if any of these faiths is entitled to priority, it must be given to that which has been assigned the second place. The author says, indeed, that phallic worship enters so closely into union with *all* faiths to the present hour that it is impossible to keep it out of any chapter. We can understand well how this should be as to the tree, serpent, and solar cults, but it is not so evident at first sight in relation to fire worship. If fire was, however, regarded as the servant of Siva, and all creating gods, there is no difficulty in accepting the position. The object of the worship offered to the sacred fire is consistent with that view. Thus Greeks, Romans, and Hindoos "besought Agni by fervent prayers for increase of flocks and families, for happy lives and serene old age, for wisdom and pardon from sin." Our author appears to see in the worship of fire essentially a household faith, and this was undoubtedly so if his explanation of the Lares and Penates is correct. These symbols represented "the *past* vital fire or energy of the tribe, as the patriarch, his stalwart sons and daughters did that of the *present* living fire on the sacred hearth." General Forlong states, indeed, that everything relating to blood used to be connected with fire, and he supposed therefore that *Agnatio* may have been *Relation by fire*, for the *Agnati* could only be those of the fire or father's side.

If the father derived his authority in the household from the sacred hearth-fire, we can understand why our author has assigned to ancestor worship the last place in his scheme. He says, moreover, that ancestor worship is "a development and sequence of that idiosyncracy of man which has led him to worship and deify even the living,—that which, according to the teaching of Enemerus, accounts for all the mythological tales of the gods and god-like men of Greece." And yet this is hardly consistent with other statements. Thus we are told that "the ancestor was worshipped in the great chief, 'the Father of Fathers,' each of whom was a member of the *Dii Gentiles* of his own clan, and this not only during the comparatively modern Roman sway, but during all the ages of serpent, fire, and solar faiths." In the still earlier faiths he was represented in the rude pillar, as well as in the little Lares and Penates of the

hearths. In this case, however, ancestor worship would seem to be entitled to stand on the same level as tree worship and serpent worship as a phase of the phallic faith. In fact, it is in a sense identified with serpent worship. General Forlong remarks that among the Greeks and Romans "the ancestor came to be honoured and worshipped only as the Generator, and so also the serpent as his symbol." This confirms the conclusion the present writer endeavoured to establish some time ago, that the serpent is really the representative of the ancestor, in which case ancestor worship is a very primitive faith, although in a specialised form it may possibly, as our author asserts, come later than sun worship.

After the evidence brought together in the present work, it can hardly now be contested that the same ideas underlie all the early faiths. This is the view entertained by General Forlong, who says, "So imperceptibly arose the serpent on pure phallic faiths, fire on these, and sun on all, and so intimately did all blend with one another, that even in the ages of true history it was often impossible to descry the exact god alluded to." The foundations of all those faiths, and of ancestor worship as allied to them, must therefore be sought in the ideas entertained by mankind in the earliest times, "when the race lived untaught, herded with their cattle, and had as their sole object in life the multiplication of these and of themselves." The question arises, however, whether the simple faith which man then entertained was the earliest he had evolved. General Forlong answers that question in the negative, for he says, when referring to the serpent Buddhism of Kambodia, that "Fetish worship was the *first* worship, and to a great extent is still the *real* faith of the great mass of the ignorant, especially about these parts." He finds that nearly one quarter of the world yet deifies, or at least reverences, sticks and stones, ram-horns and charms, a practice not unknown even to later faiths. The same must be said of animal worship, which may be understood to be carried along with and included in one or other of the six great faith streams. It may be doubted, however, whether this is a sufficient reason why a special consideration of fetishism and animal worship should not have been given in so comprehensive a work as the present. It appears to us, indeed, that, notwithstanding the wealth of material brought together, and the skill with which it is applied for the purpose of establishing analogies between the religions of different peoples, General Forlong has not given sufficient prominence to the fundamental belief which furnishes the key to the phenomena in question. Jacob Grimm pointed out, in his "Teutonic Mythology,"[1] that all nature was thought of by the heathen Germans as living. Gods and men transformed themselves into trees, plants, or beasts; spirits and elements attained animal forms; and therefore we cannot wonder at the heavenly bodies, and even day and night, summer and winter, being actually personified. These ideas lend themselves as well to fetishism as to sun worship, and all faiths alike may justly therefore be regarded as phases of one universal nature worship. Mankind prays only for

[1] Eng. Trans., vol. ii, p. 647.

that which they think good, and if one man seeks to obtain his desire through the agency of a stick or stone, and another through a serpent or planetary god: the difference between them is purely objective. The prayers which, according to Mr. J. Talboys Wheeler, were offered to the Vedic gods would be equally appropriate in the mouth of a native of Western Africa. They had relation simply to temporal needs, and were for abundance of rain, plentiful harvests, and prolific cattle, for bodily vigour, long life, numerous offspring, and protection against all foes and robbers. Moreover, the observances of the more advanced faiths have little practical difference from those of the fetishist. All alike have for their object the compelling the good countenance, or counteracting the evil designs, of the gods, and the real difference is to be sought in the symbols under which the gods are represented. The worship of "sticks and stones" has therefore just as much right to a place among the streams of faith as tree worship or serpent worship. Its absence from our author's scheme furnishes one of the chief objections which, in my opinion, can be made to General Forlong's very valuable work; another being a certain want of system, which is probably to be explained partly by the way in which the different parts of the subject run into one another, and partly by the fact that the work itself has evidently grown under the author's hands. At the same time those who will study the numerous facts and illustrations it contains with an unprejudiced mind must acknowledge that, although some of its arguments, more especially those based on recondite philological grounds, may not be sustainable, its general conclusions are true. Valuable light is thrown on the religion of the Hebrews by the author's remarks on the Ark of the Covenant and its contents; notwithstanding Mr. Stewart Poole's suggestion that the essential difference between the Ark and the Egyptian *Bari* is to be found in the supposed fact that the former "enshrined no symbolic emblem." To the anthropologist, one of the most interesting subjects connected with the great religious faiths is the question of their race origin. We have not space left to consider this point, but we may state that General Forlong's studies have gradually led up to the conclusion that those religions originated with "a people of an Aithi-opik or Meru-opik stock, which spread from High Asia as Eruthreans, Akads, Kaldus, Kuths or Kusis, Kemis or Ai-gupts, Keti, Hami or Hamaths, Kanâns," &c., and whom he classes together as Turanians. From this source sprang the magic mythologies of Arabians, Zoroastrians, Greeks, and Latins, including fire worship, and also serpent worship, which "was and is prominent in all Turanian religions." Whether or not this conclusion can yet be accepted as established is doubtful, although facts certainly point in that direction, and General Forlong has done good service in bringing them together so fully and so well.

C. Staniland Wake.

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